

Capítulo 4: I/O Processing

Processing Topics

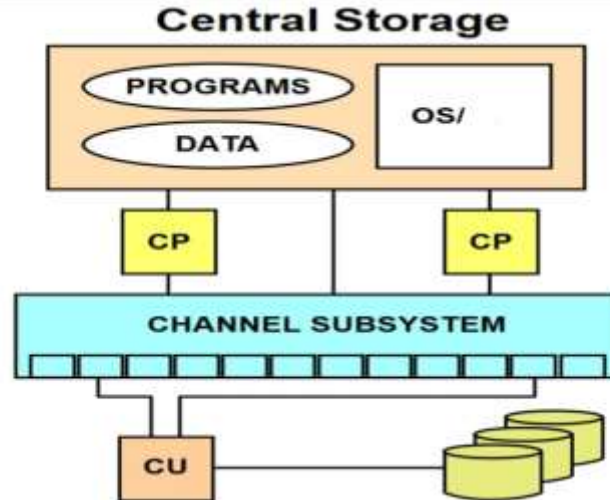


I/O Hardware Overview

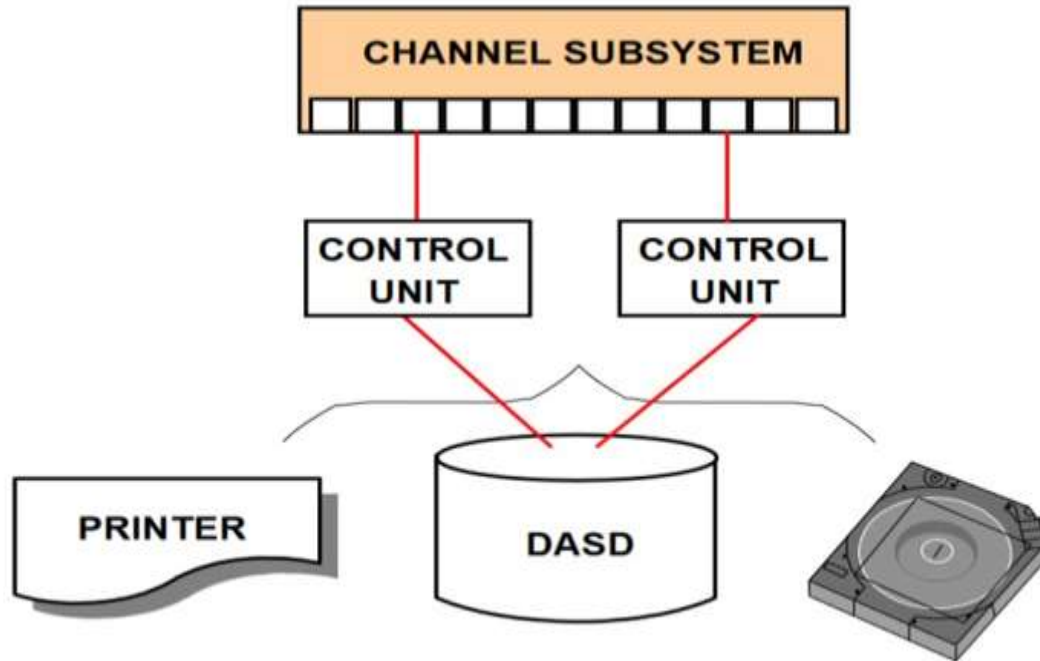
I/O Operation Flow

Other I/O Facilities

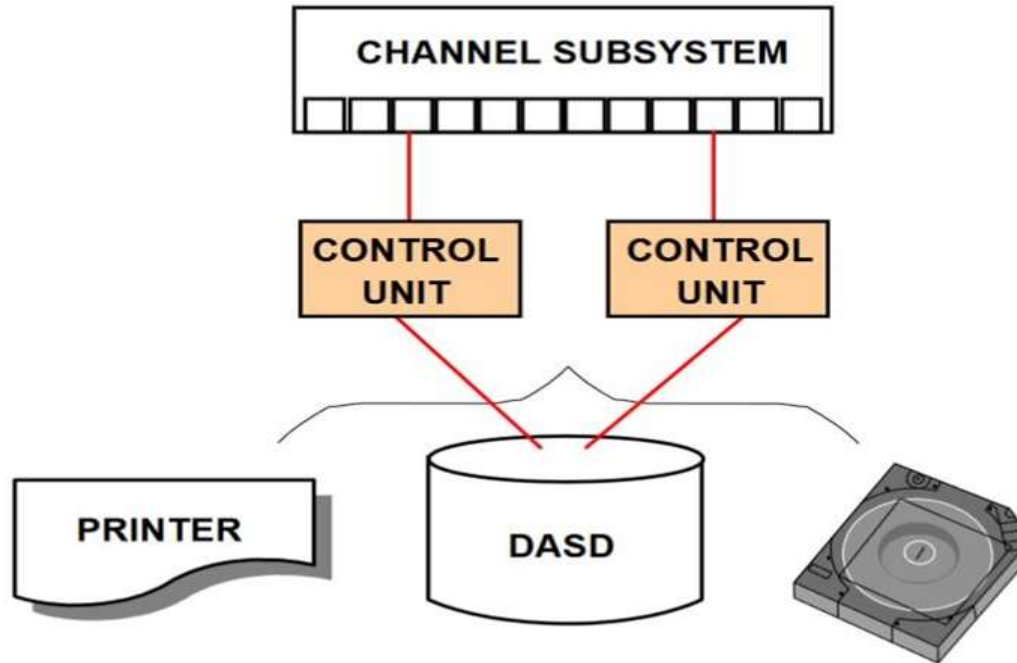
I/O HARDWARE



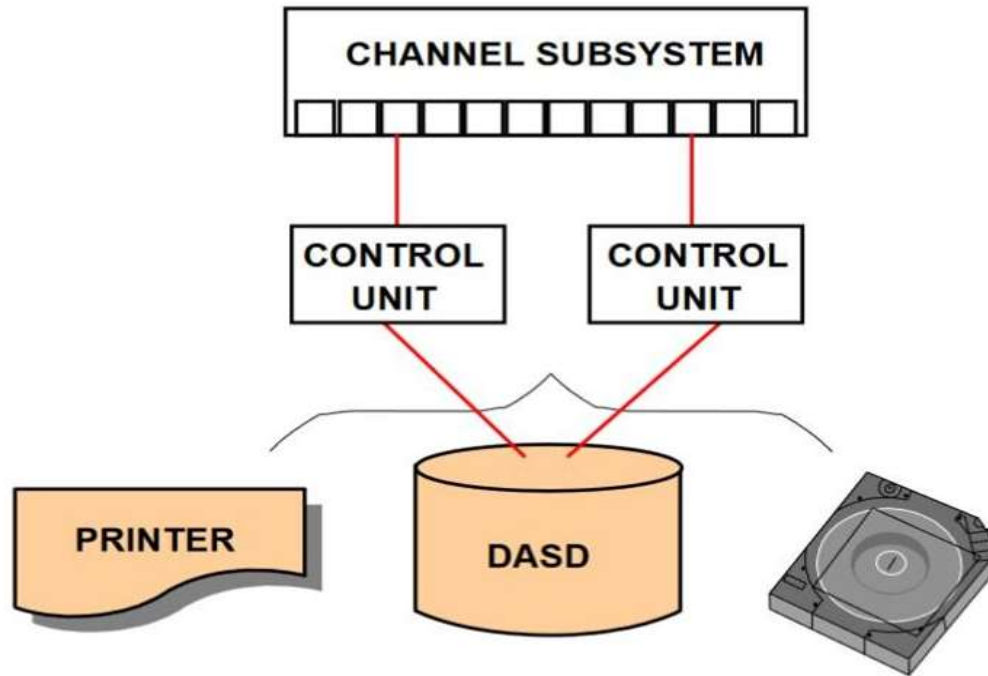
Channel Subsystem



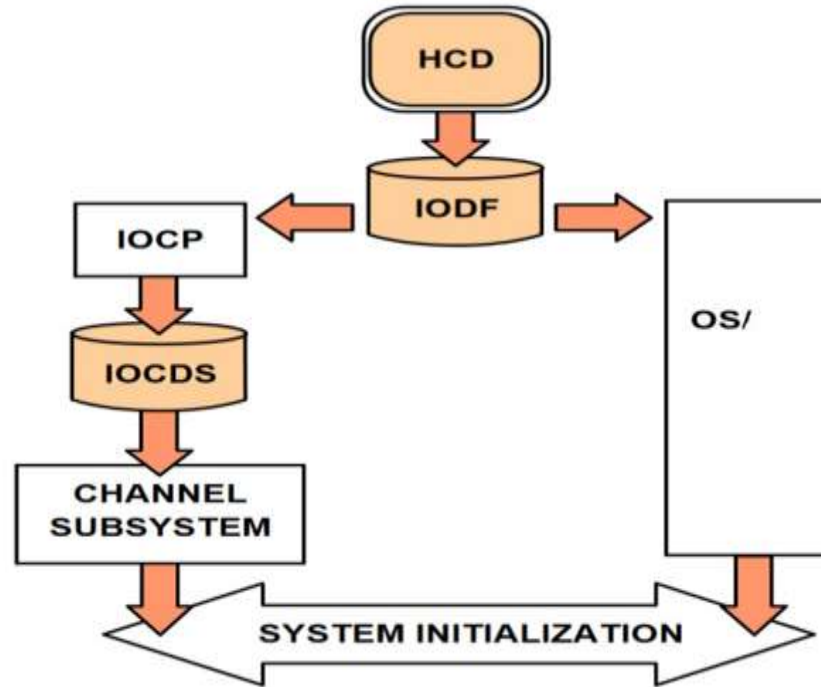
Control Unit



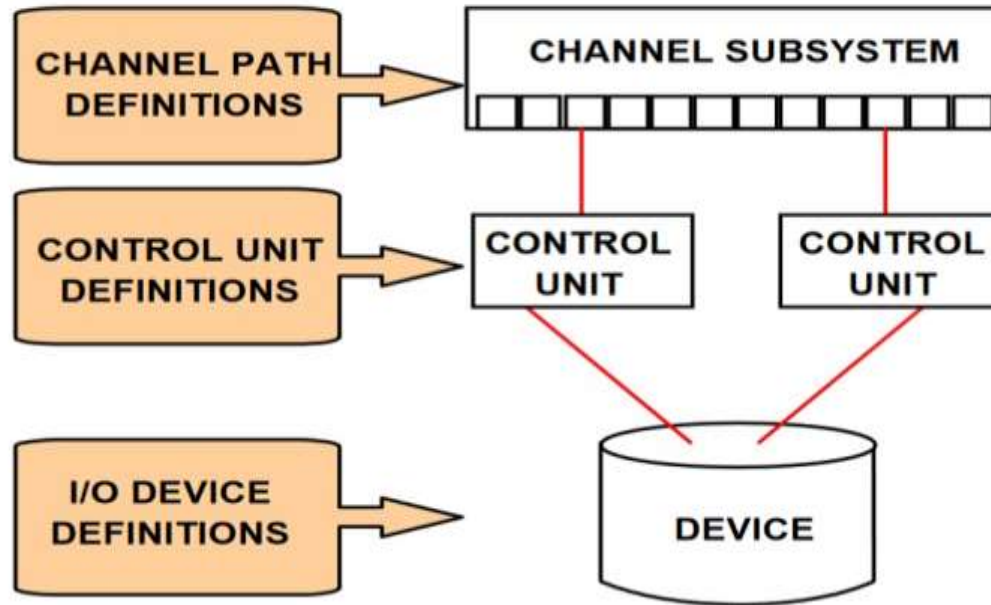
Device



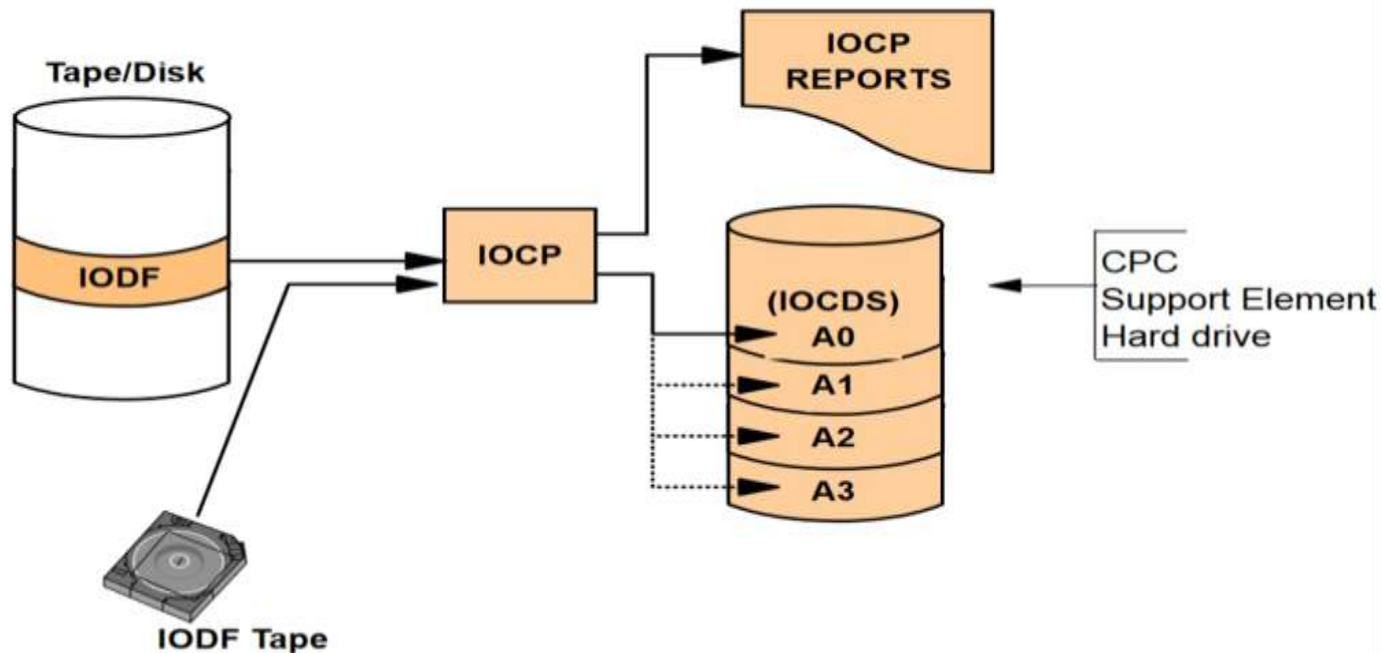
I/O Hardware Configuration Definition-HCD



I/O Configuration Program (IOCP)

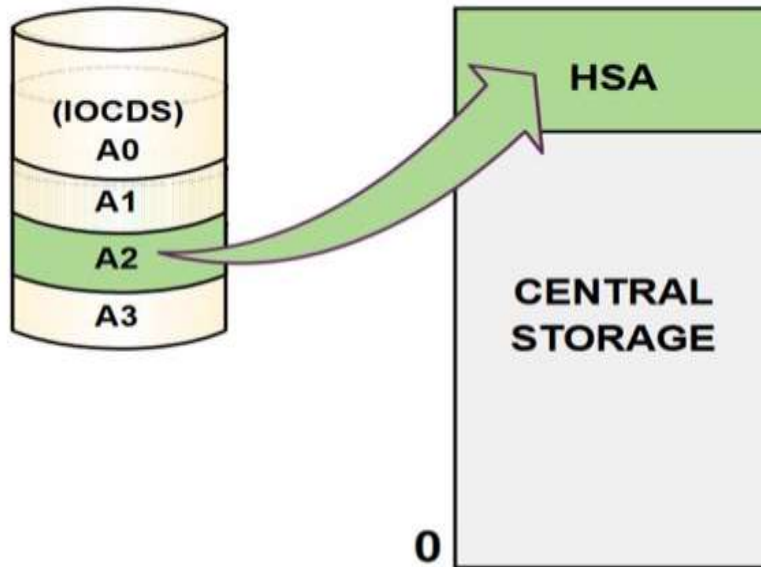


I/O Configuration Data Set (IOCDs)



HSA: Hardware System Area; (load at power-on).

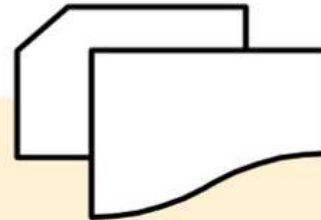
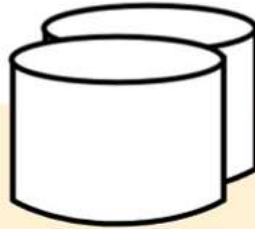
Hardware System Area



Operating System's I/O Configuration Information

DEVICE DESCRIPTIONS

- DEVICE NUMBER
- TYPE and MODEL
- FEATURES



DEVICE GROUPS

- FOR ALLOCATION
- VIO ELIGIBILITY

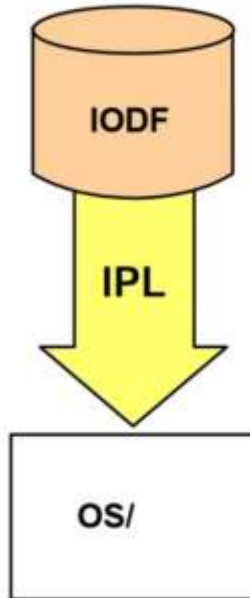
HCD Processing

1. Define, modify, or view configuration data.
2. Activate or process configuration data.
3. Print or compare configuration data.
4. Create or view graphical configuration report.
5. Migrate configuration data.
6. Maintain I/O definition files.
7. Query supported hardware and installed UIMs.
8. Getting started with this dialog.
9. What's new in this release.

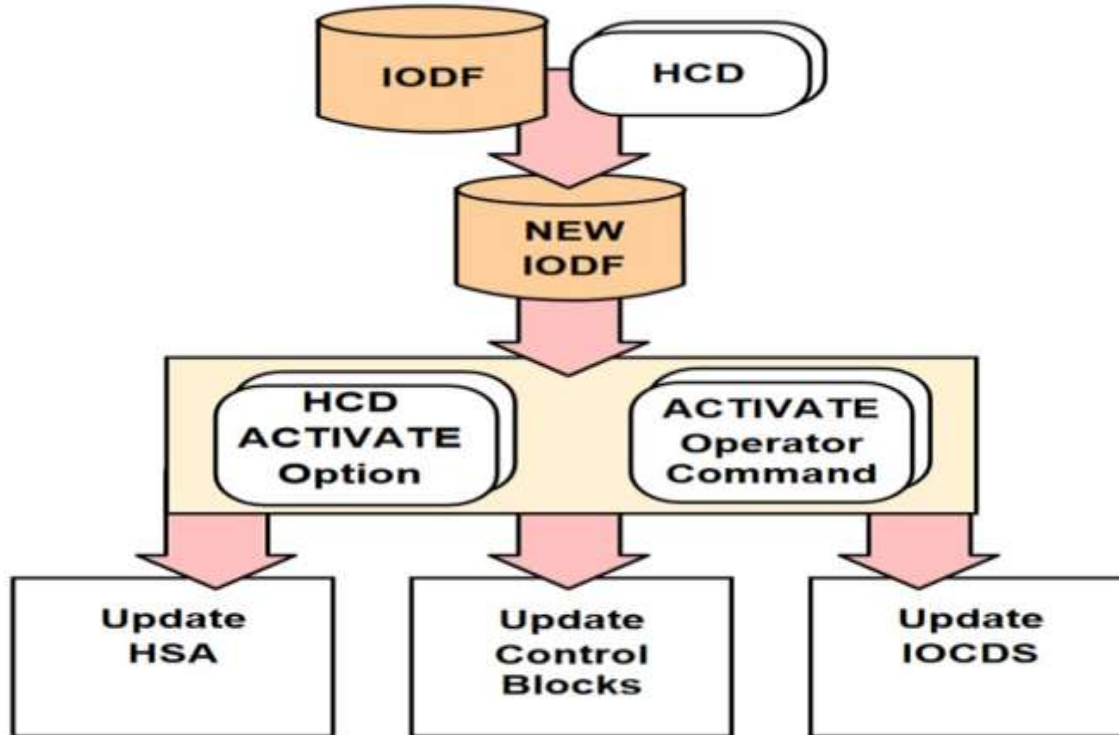
For options 1 to 5, specify the name of the IODF to be used.

I/O definition file... 'SYS3.IODF00.WORK'

I/O Configuration from Initial Program Load



Dynamic Reconfiguration Management



Processing Topics

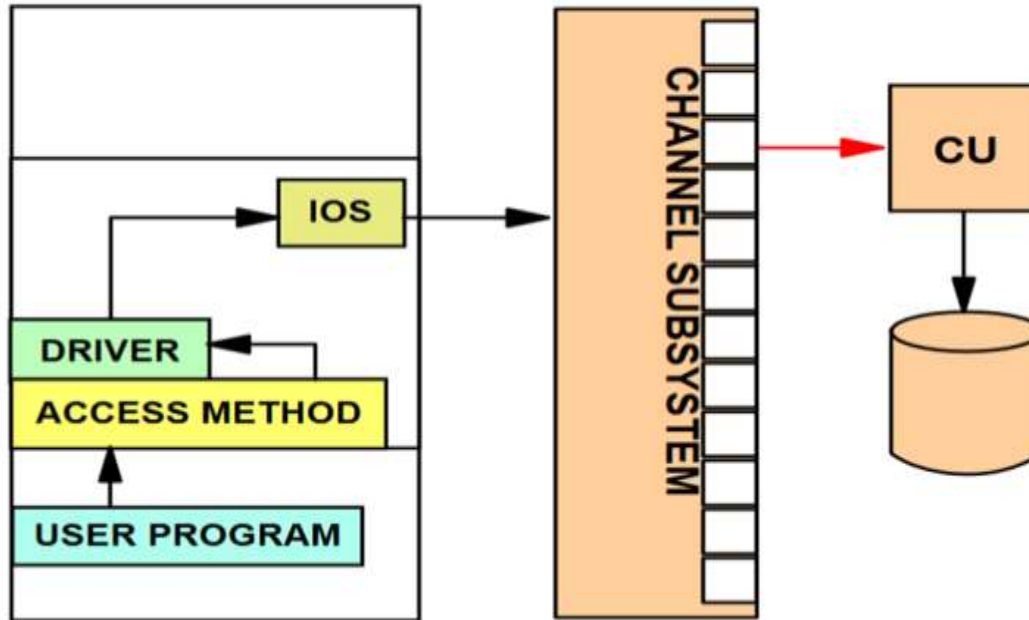
I/O Hardware Overview



I/O Operation Flow

Other I/O Facilities

I/O Component Overview



IOS: IO Supervisor.

Program's I/O Functions

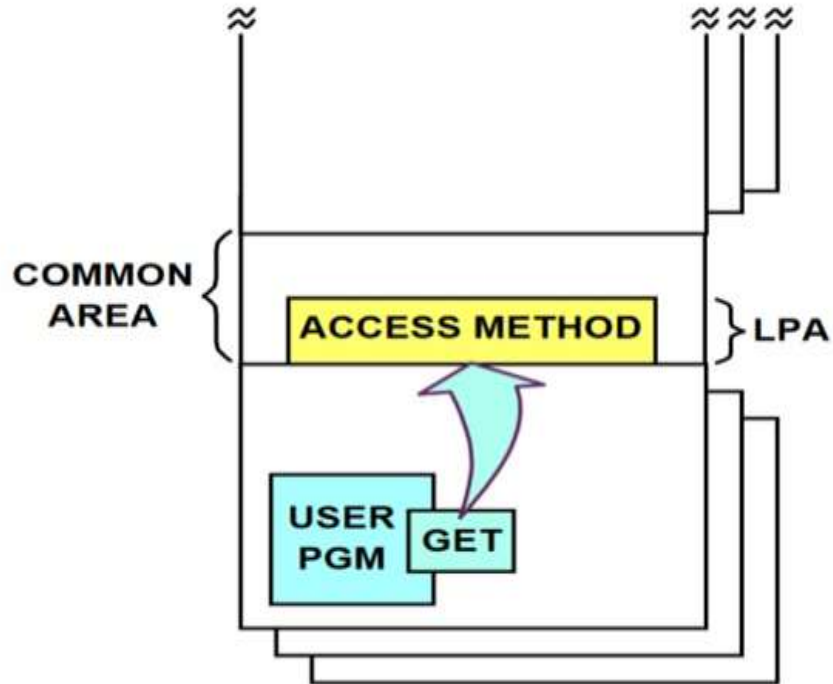
```
// JOB  
// EXEC PGM=MYPROG  
// DD DSN=MYDATA,UNIT=3380,VOL=SER=MYVOL1
```

Describe Data Set
Open Data Set
Get (or Put) Data Set
(Program waits for data)
Close Data Set

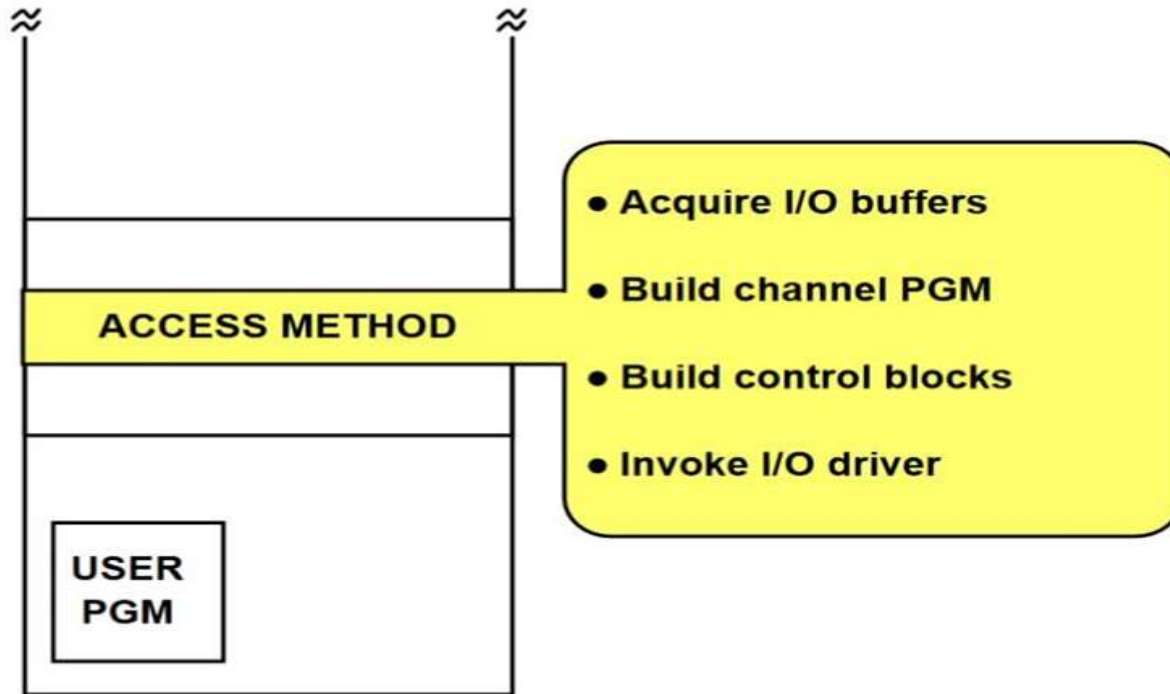
DATA
AREA



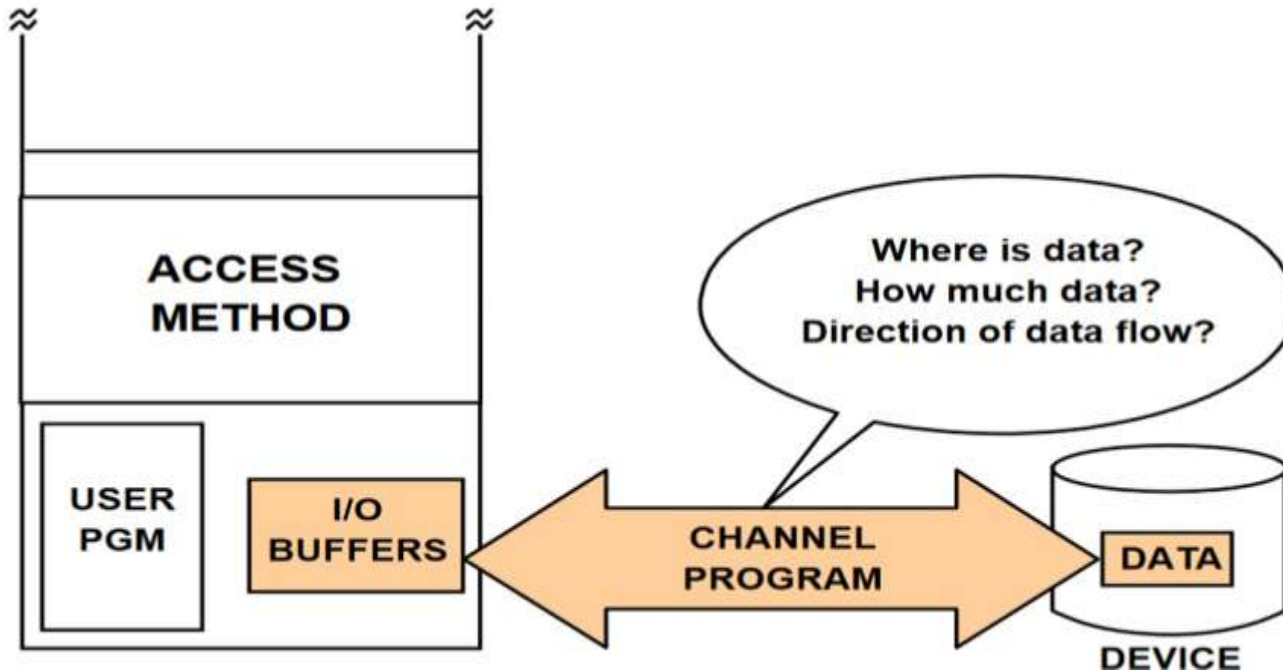
I/O Request Initiation



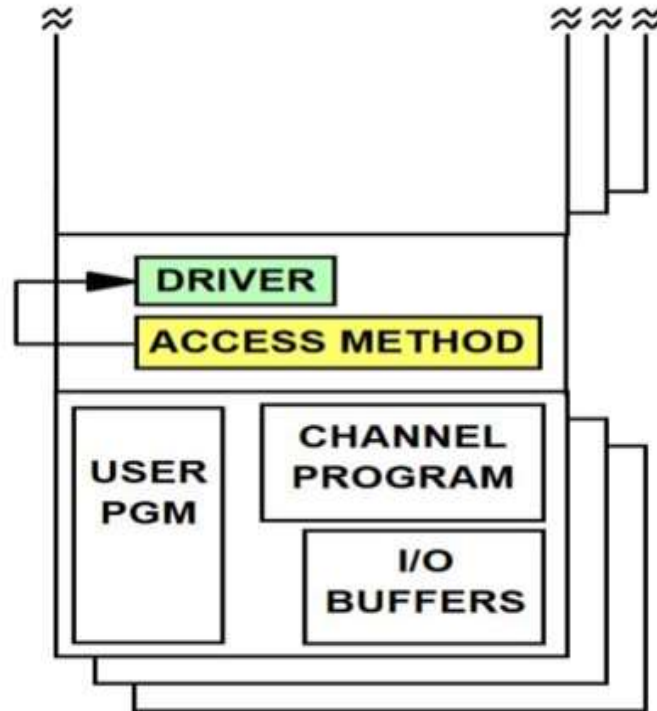
Access Method's I/O Functions



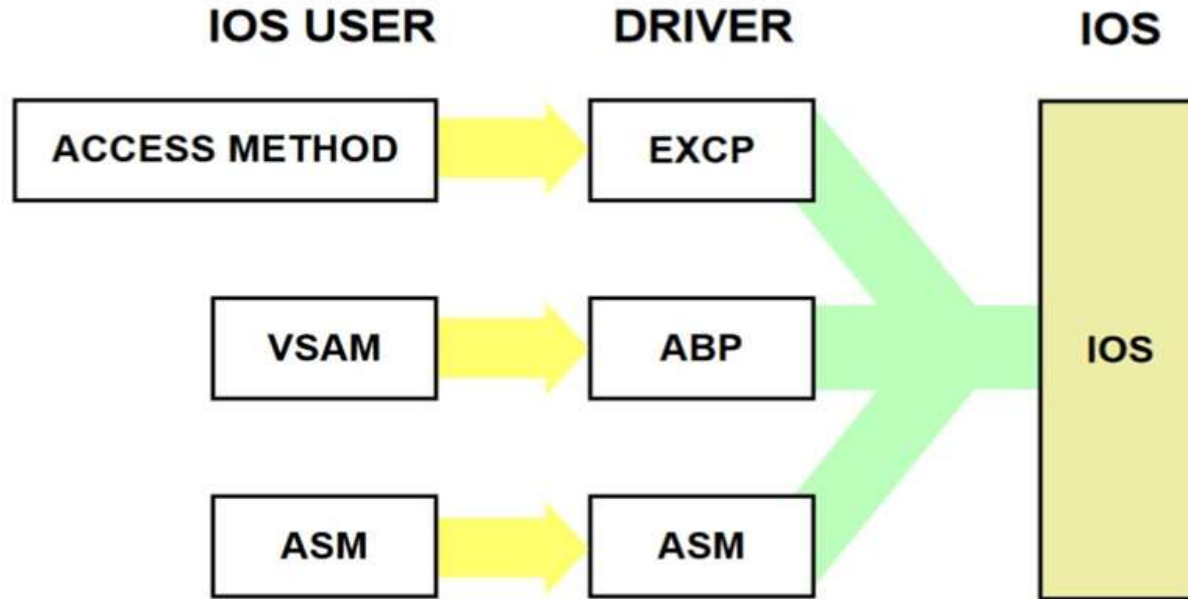
Channel Program



Access Method Interface to I/o Drivers



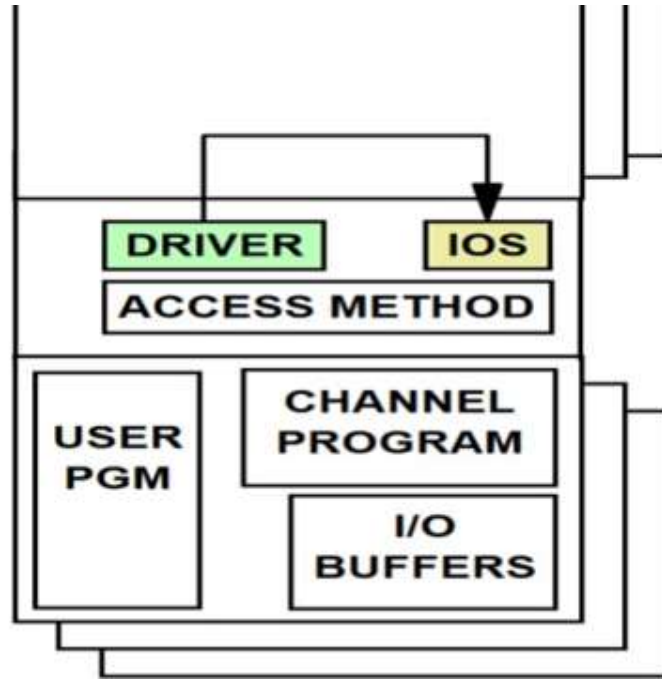
I/O Drivers



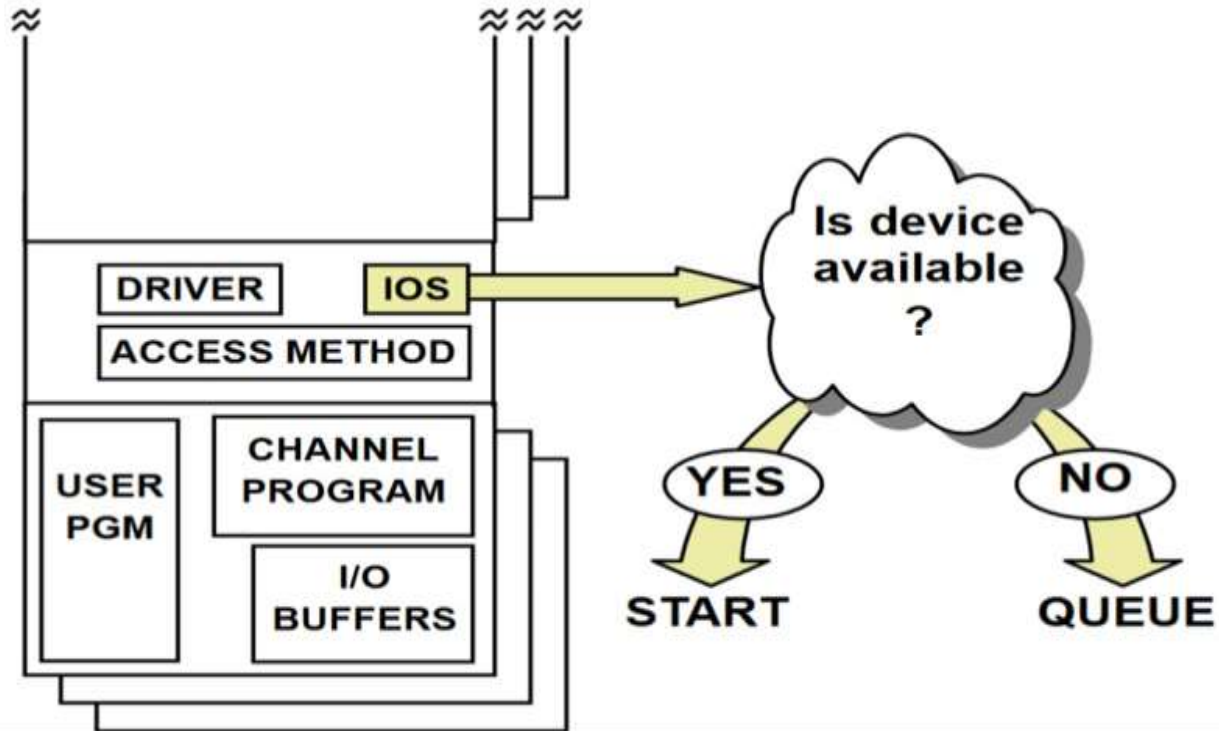
ABP: Actual Block Processor (usado por vsam).

ASM: Auxiliary Storage Manager.

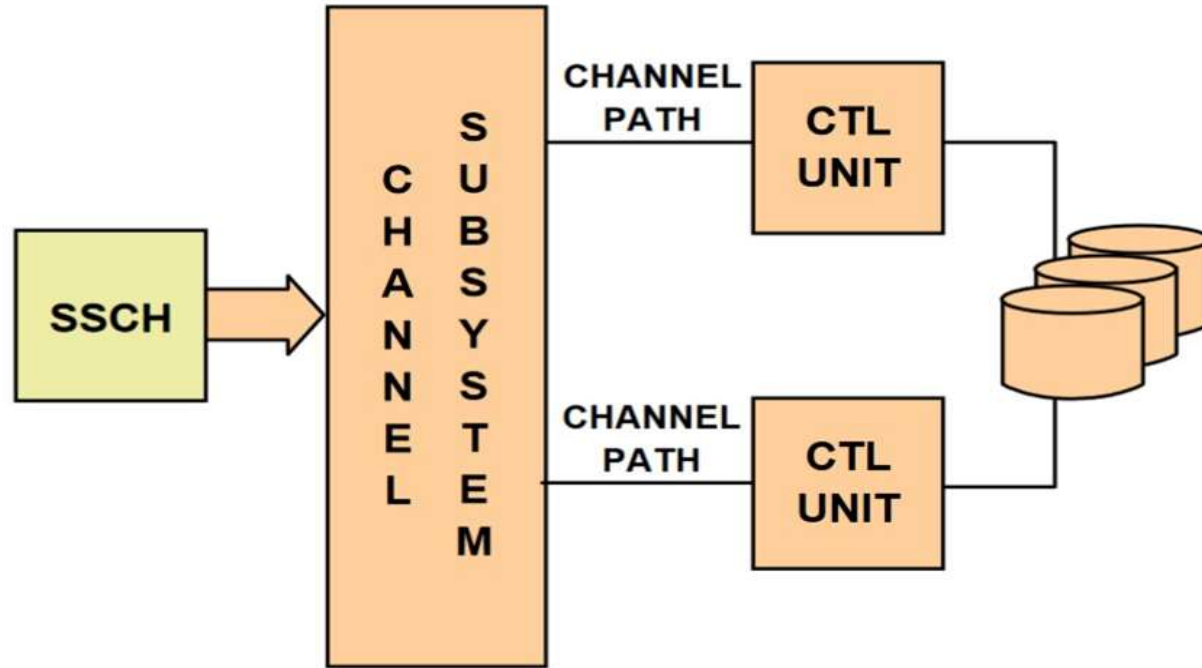
Driver's Interface to IOS



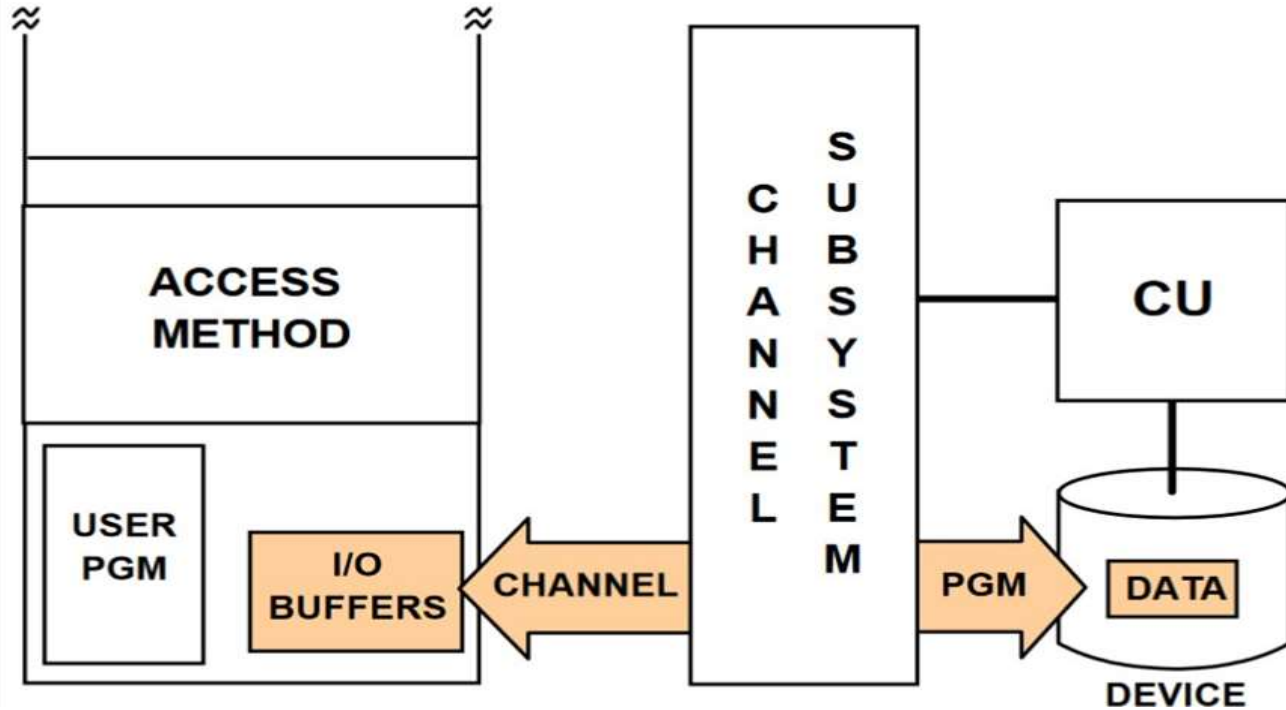
IOS Processing



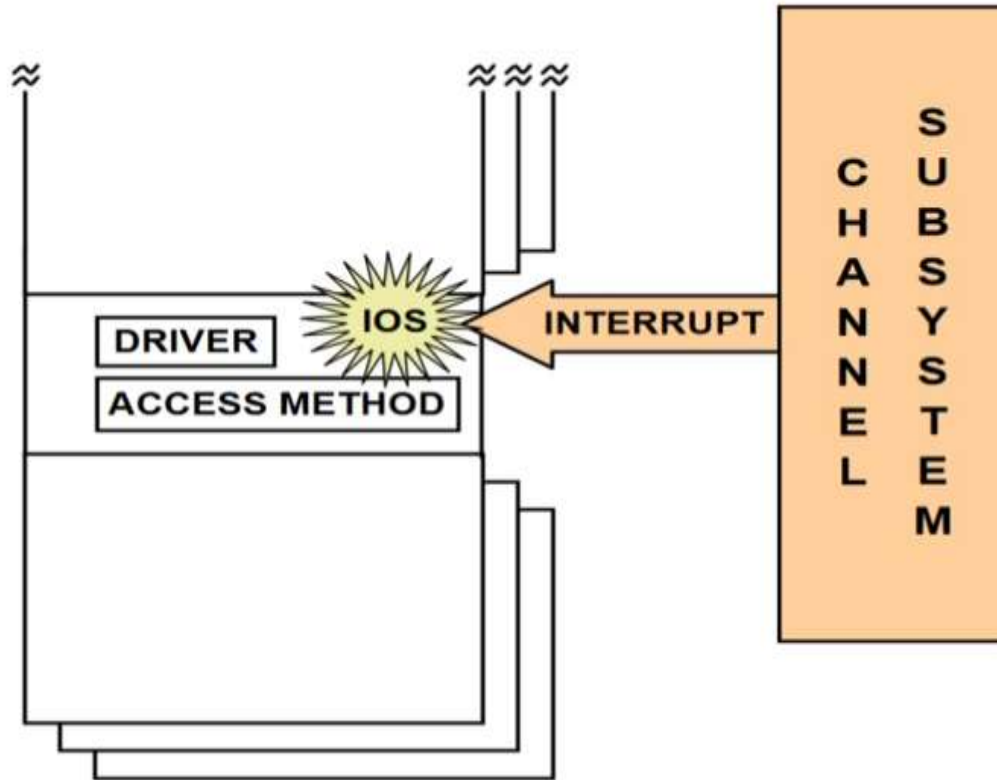
Channel Subsystem Processing



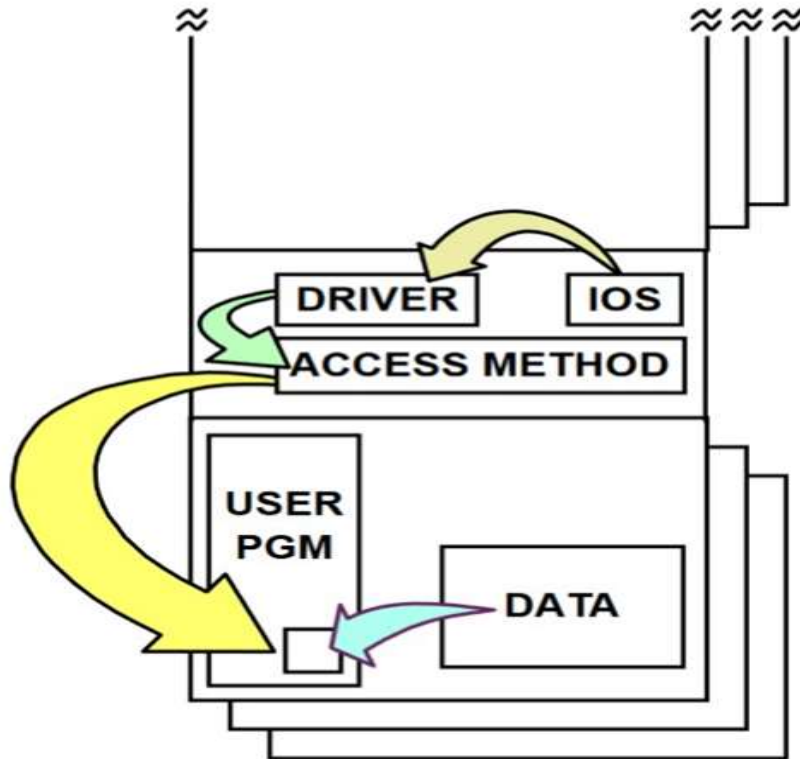
Channel Program Execution



I/O Operation Completion

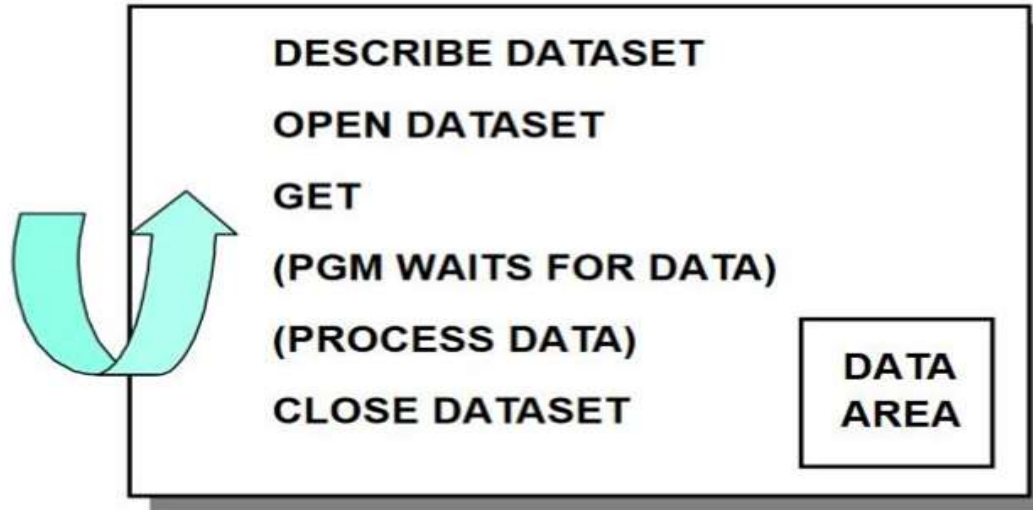


I/O Post Processing

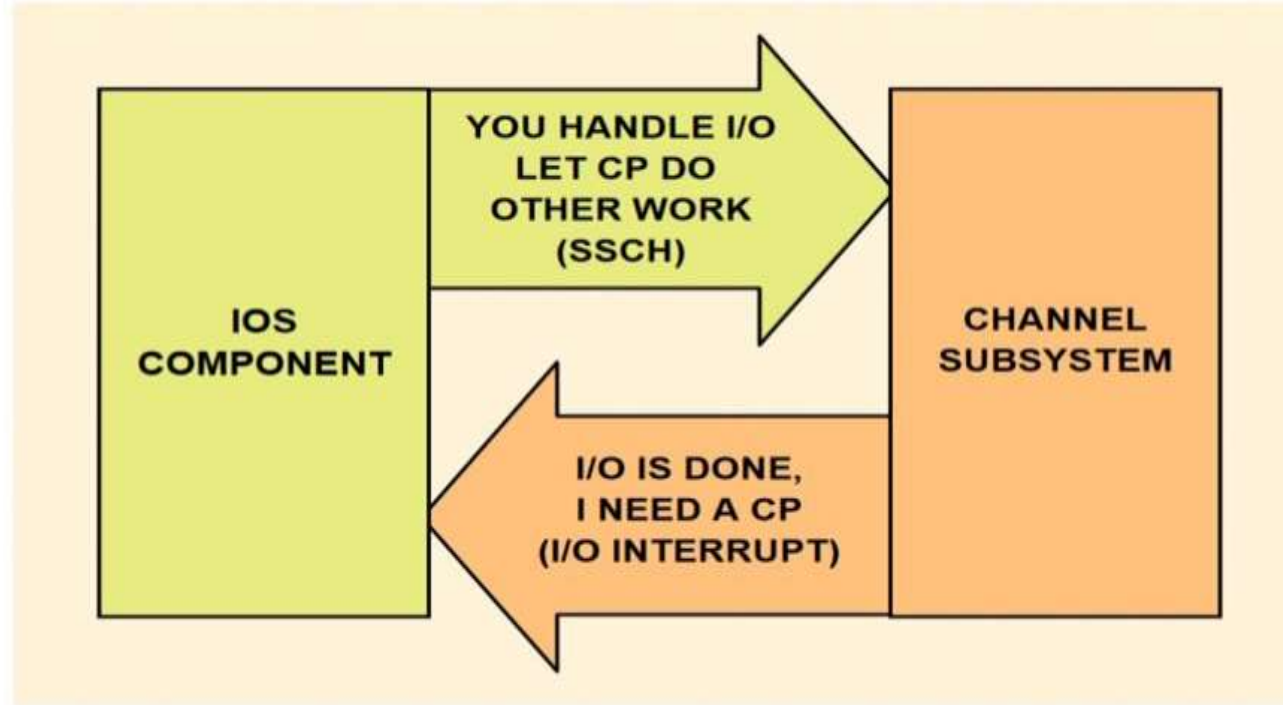


Program's Processing of Data

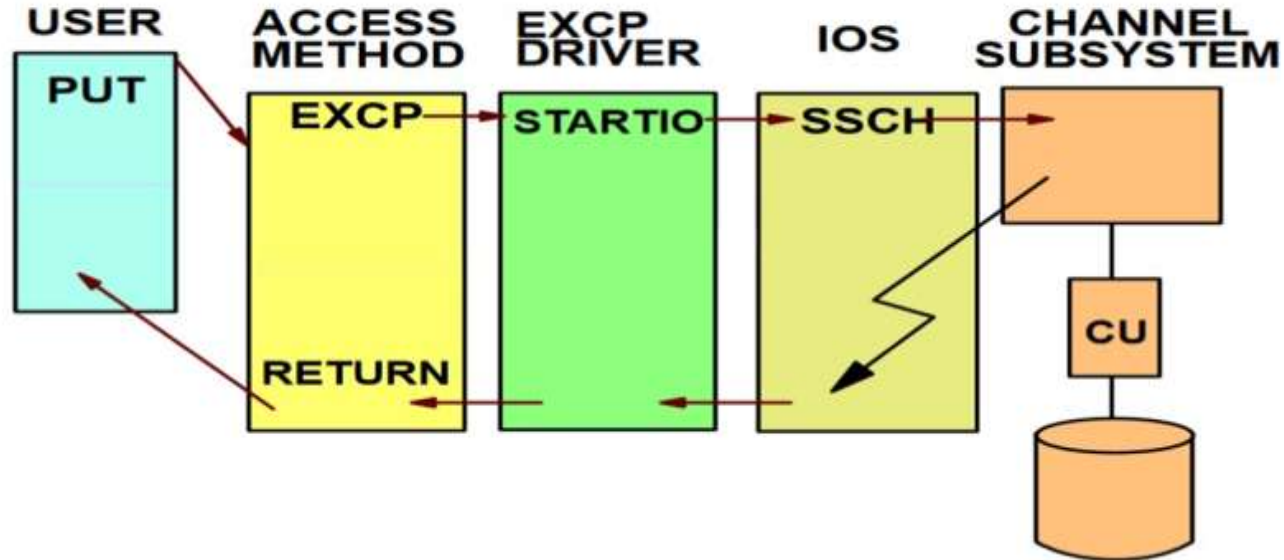
```
// JOB  
// EXEC PGM=YOURPGM  
// DD DSN=YOURDATA
```



Software and Hardware Interface



I/O Flow Summary



Processing Topics

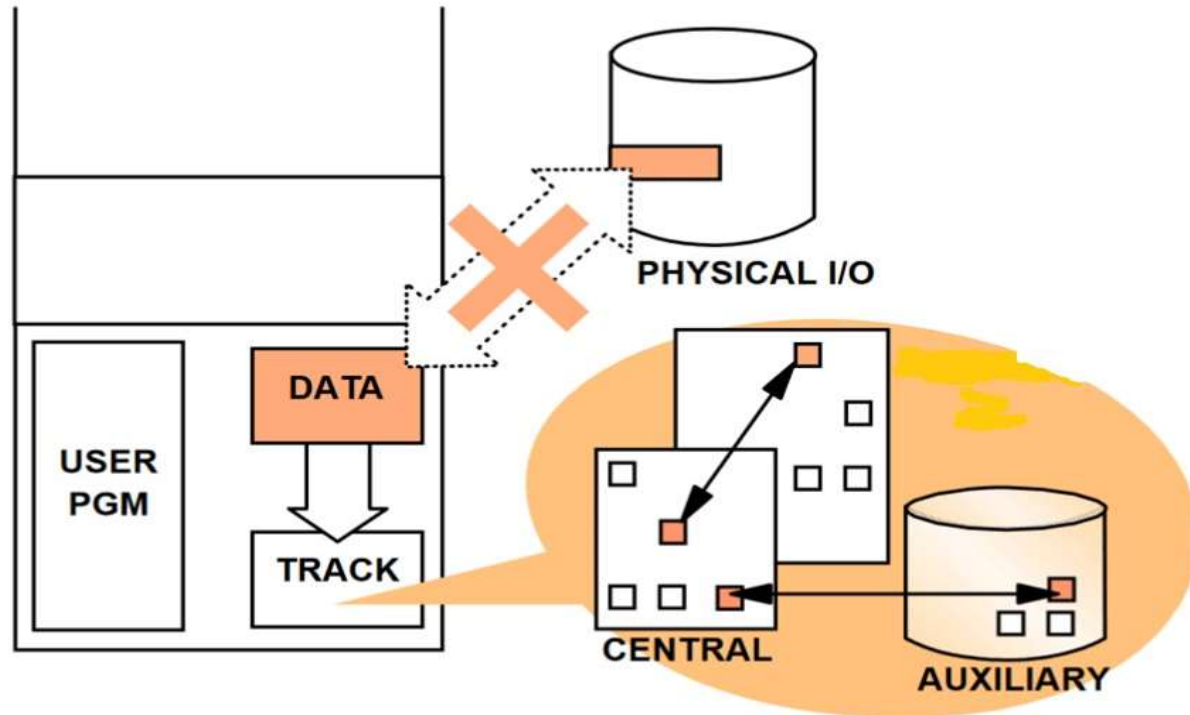
I/O Hardware Overview

I/O Operation Flow

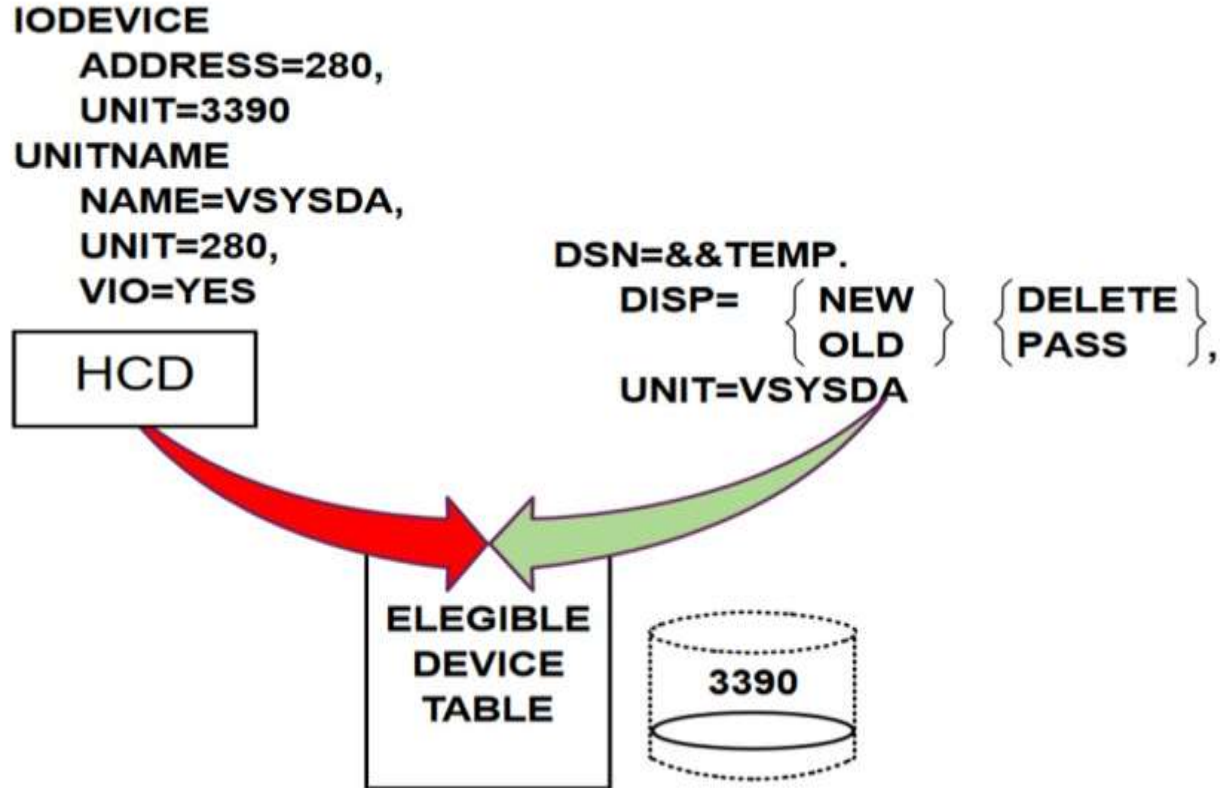


Other I/O Facilities

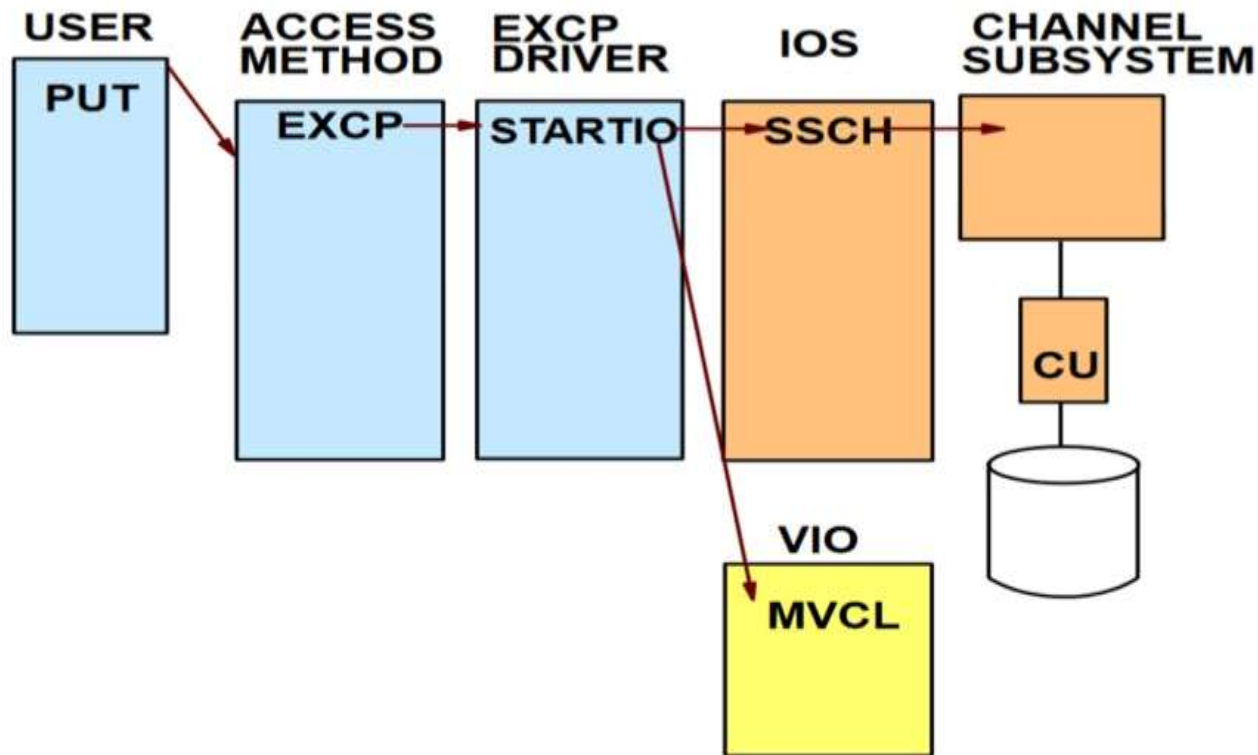
Virtual I/O (VIO) Operation



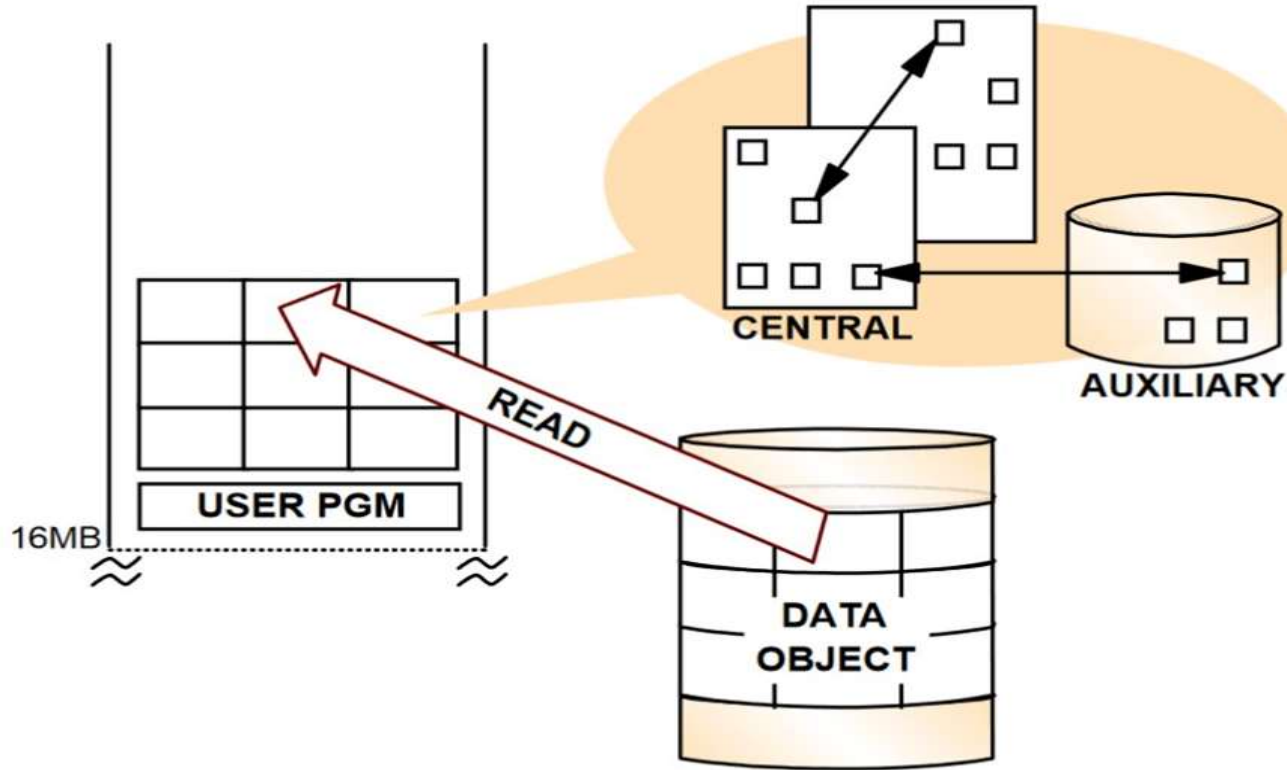
Virtual I/O (VIO) Implementation



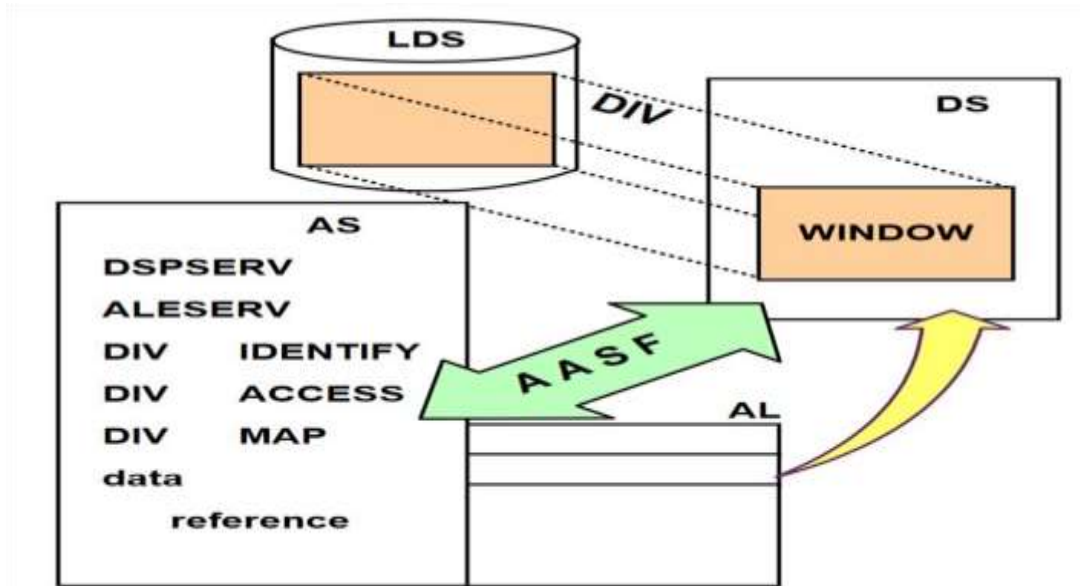
Virtual I/O (VIO) Flow



Data-In-Virtual



DIV's Use of Data Spaces



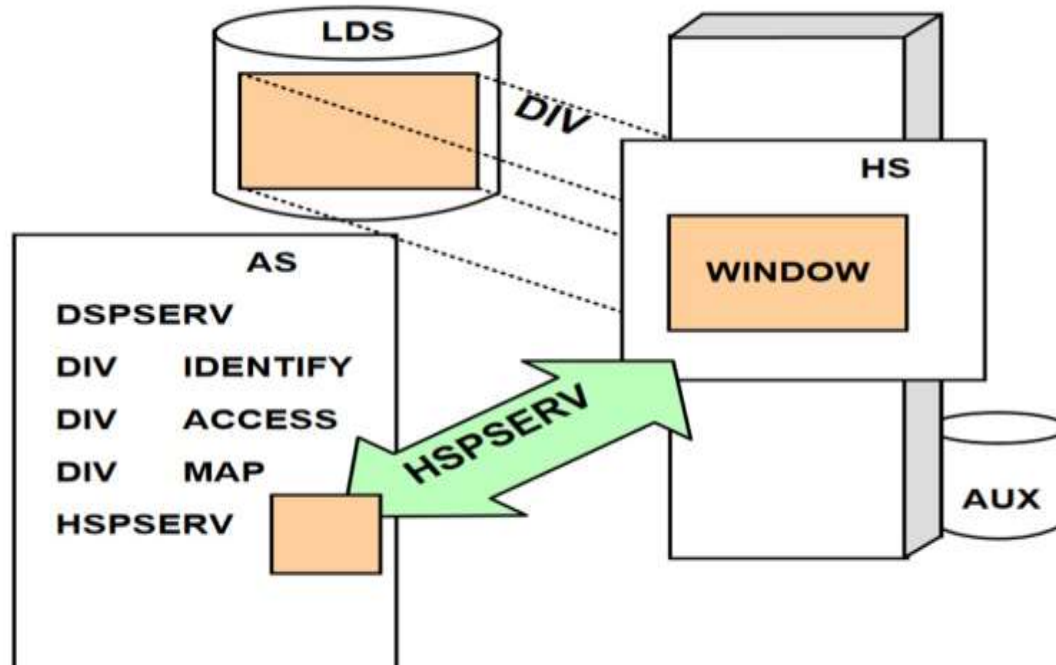
AASF: Advance Address Space Facility.

AL: Access list.

DSPSERV: Data Space Service; Macro usada para crear DS.

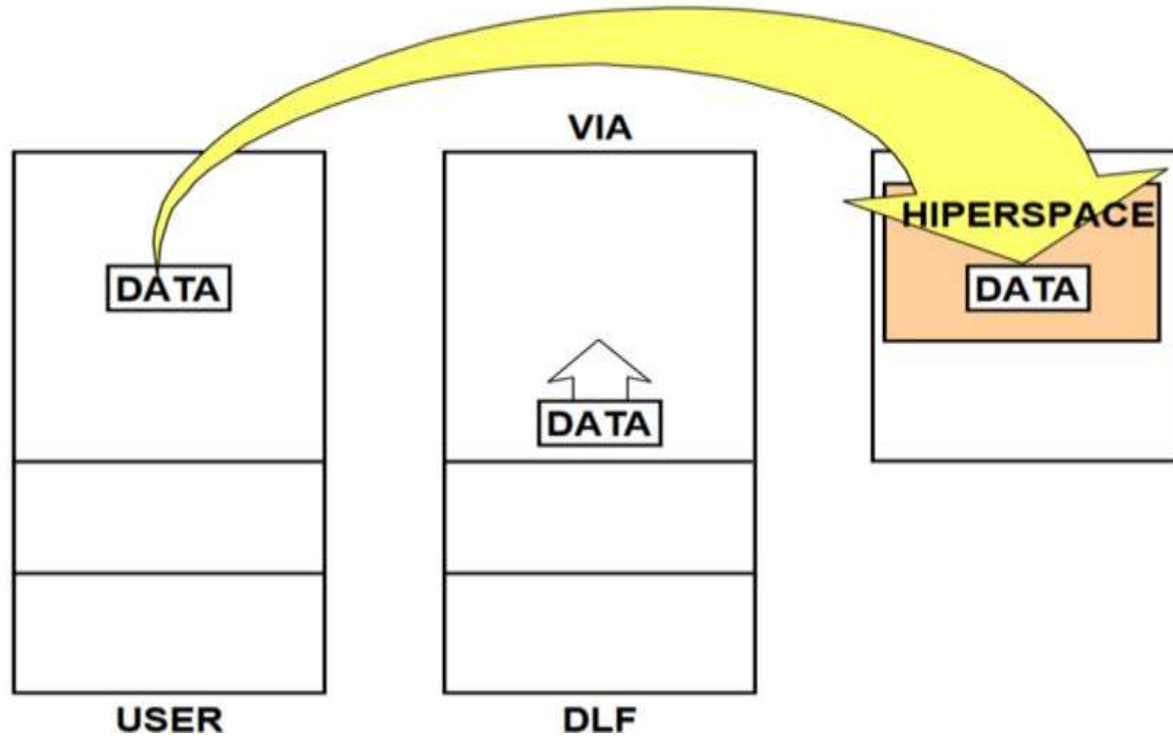
ALESERV: Macro, Access List Entry Services. (permite a appl. Pgms, data-sharing, integridad, en un multiple space environment).

DIV's Use of Hyperspaces



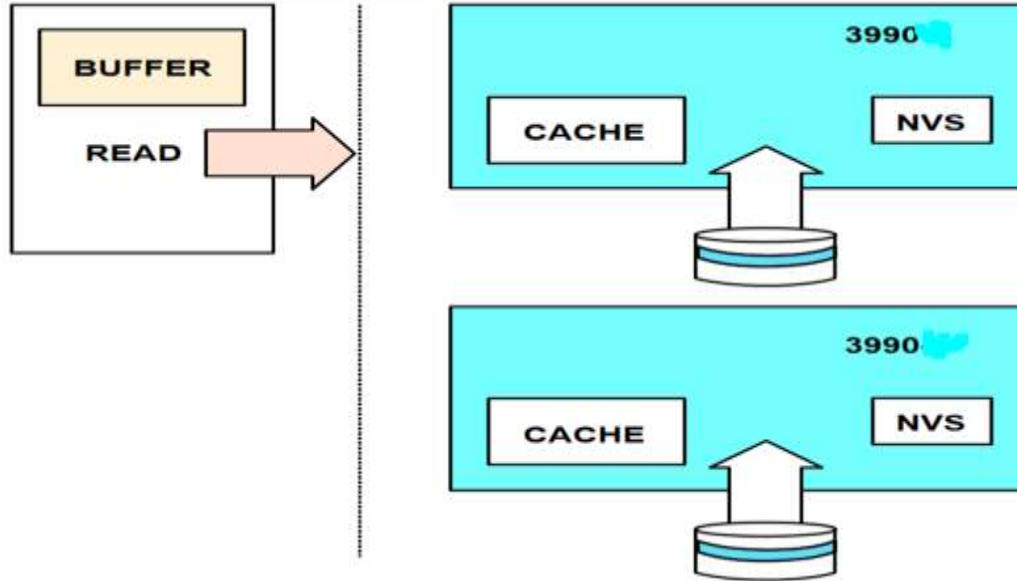
HSPSERV: HyperSpace Service; macro.

Data Lookaside Facility (DLF)



DLF: Data Lookaside Facility.

Parallel I/O Processing



(Parallel I/O, significa performance de múltiples operaciones de I/O al mismo tiempo, por ejemplo, outputs simultáneamente a dispositivos de almacenamiento y dispositivos de visualización. Hoy día, es una característica fundamental de los sistemas operativos. Una instancia particular, es la escritura paralela de datos en el disco; cuando los datos de archivos se extienden a través de múltiples discos, por ejemplo, en un RAID array, se puede almacenar varias partes de los datos al mismo tiempo, logrando así velocidades de escritura más altas que con un solo dispositivo).