z/OS Introduction and Workshop

IMS
Unit Objectives

After completing this unit, you should be able to:

• Describe IMS
• List 3 IMS Components
Information Management System (IMS)

IMS consists of 3 components
1. System Services component
2. Transaction Manager (TM) component
3. Database Manager (DB) component
IMS Network Connectivity
IMS Application Programming Interface (API)

EXEC SQLIMS
now available to
use SQL against
IMS DB

ASMTDLI: Assembler language interface to IMS
CTDLI: C language interface to IMS
CBLTDLI: COBOL language interface to IMS
PASTDLI: PASCAL language interface IMS
PLITDLI: PL/I language interface to IMS
IMS Environment

**System Address Space**
- **Application Region Address Space**
  - Up to 99 in total

**Dependent Region Address Space**
- **Control Region Address Space**
- **DLI Separate Address Space**
- **DBRC Region**
- **MPP**
  - Application Program
- **IFP**
  - Application Program
- **BMP**
  - Application Program

**IMS System**
- **IMS Libraries**
- **IMS Message Queues**
- **Fast Patch DBs**
- **Logs**

**Network**
- **Full Function DBs**
- **RECONs**
- **Java Message Processing**
- **Java Batch Processing**
IMS Today

Operations Management

Single Point of Control
Mainframe

Control Center
Workstation

Network Access

Network Management
Message Management
Data communications
Security

zOS

IMS

Java
Integrated
Connect

Transaction Management

Systems Services

Database Management

DB2
IMS DB

Command processing
Memory Management
Operations Interface
Global resource management
Inter-systems communications

Websphere
DB2 Stored Procedures
CICS

Organize
Store and Retrieve
Data Integrity
Recoverability
Hierarchical vs. Relational and Data Bases

DB2

- Employee has a Resume
  - An employee has a resume
  - A resume is owned by an employee

- Employee works for Department
  - Many employees work for one department
  - One department can have many employees

- Employee works on Projects
  - Employees work on many projects
  - Projects are worked on by many employees

IMS DB

- Parent of INSTR
- Child of INSTR
- Course has dependents
  - INSTR
  - STUDENT
  - PLACE
- REPORT
- GRADE

Root
Starting IMS (Operations)

S IMS10RL1
$HASP373 IMS10RL1 STARTED
DXR117I IRLM001 INITIALIZATION COMPLETE

S IMS10CR1
$HASP373 IMS10CR1 STARTED
DFS1929I * IMS SYSTEM PARAMETERS INITIAL FOR THIS V10.1 DBDC EXECUTION:
START IMS10DL1,PARM=(DLS,IVP1)
DFS0578I - READ SUCCESSFUL FOR DDNAME PROCLIB MEMBER = IMS10RC1
START IMS10RC1,IMSID=IVP1
$HASP373 IMS10DL1 STARTED
$HASP373 IMS10RC1 STARTED
*DFS225A - CTL REGION WAITING FOR DBRC REGION (IMS10RC1) INIT

*03 DFS810A IMS READY

R 03,/NRE CHKPT 0 FORMAT ALL
IEE600I REPLY TO 03 IS;/NRE CHKPT 0 FORMAT ALL
DFS994I COLD START COMPLETED.
S IMS10RD1,MBR=IMSMSG
$HASP373 IMS10RD1 STARTED
$HASP373 IMS10M11 STARTED
$HASP373 IMS10F12 STARTED
$HASP373 IMS10F11 STARTED
### Address Spaces

**SDSF STATUS DISPLAY ALL CLASSES**

PREFIX=IM*  DEST=(ALL)  OWNER=*  

<table>
<thead>
<tr>
<th>NP</th>
<th>JOBNAME</th>
<th>JobID</th>
<th>Queue</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMS10J11</td>
<td>JOB01633</td>
<td>EXECUTION</td>
<td></td>
</tr>
<tr>
<td>IMS10F12</td>
<td>JOB01632</td>
<td>EXECUTION</td>
<td></td>
</tr>
<tr>
<td>IMS10F11</td>
<td>JOB01631</td>
<td>EXECUTION</td>
<td></td>
</tr>
<tr>
<td>IMS10M11</td>
<td>JOB01630</td>
<td>EXECUTION</td>
<td></td>
</tr>
<tr>
<td>IMS10RC1</td>
<td>STC01628</td>
<td>EXECUTION</td>
<td></td>
</tr>
<tr>
<td>IMS10DL1</td>
<td>STC01627</td>
<td>EXECUTION</td>
<td></td>
</tr>
<tr>
<td>IMS10CR1</td>
<td>STC01626</td>
<td>EXECUTION</td>
<td></td>
</tr>
<tr>
<td>IMS10RL1</td>
<td>STC01625</td>
<td>EXECUTION</td>
<td></td>
</tr>
</tbody>
</table>

*04 DFS996I *IMS READY*
Stopping IMS (Operations)

R 04,/CHECKPOINT FREEZE.

REPLY TO 04 IS;/CHECKPOINT FREEZE.
DFS058I 14:52:06 CHECKPOINT COMMAND IN PROGRESS
  *05 DFS996I *IMS READY*
DFS552I  IFP  REGION IMS10F11 STOPPED
DFS552I  IFP  REGION IMS10F12 STOPPED
DFS552I  MESSAGE REGION IMS10M11 STOPPED
DFS552I  JMP  REGION IMS10J11 STOPPED
IMS Professional Manuals and Documentation
Unit summary

Having completed this unit, you should be able to:

✓ Describe IMS
✓ List 3 IMS components