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## CICS TS RDO for Dummies

Presented by:  
John Lawson

**illustro Systems**  
1950 Stemmons Frwy. Suite 5001  
Dallas, Texas 75207  
Phone: 214-800-8900  
<http://www.illustro.com>



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## Topics

- Resource Definition
- Objects to be Defined
- System Definition File (CSD)
- Resource Definition Online
- DFHCSDUP Batch Utility
- Automatic Installation
- System Programming
- Summary



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Resource Definition

Use of the CICS System Definition File (CSD) is **mandatory** for CICS TS:

- All transactions (PCT entries)
- All Programs and BMS mapsets (PPT entries)
- All VTAM terminals, MRO/ISC links and sessions, VSE Console (TCT entries)

Use of the CSD is now optional but *recommended* for:

- All VSAM files


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Resource Definition...

- Macro tables still supported
  - Command List Table (CLT)
  - Destination Control Table (DCT)
  - File Control Table (FCT)
  - Journal Control Table (JCT)
  - Monitoring Control Table (MCT)
  - Program List Table (PLT)
  - System Recovery Table (SRT)


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Resource Definition...

- Macro tables still supported...
  - Terminal Control Table (TCT)
    - Logical Device Codes (3601, 3770, 3790, LUTYPE 4)
    - SAM terminals
    - Remote terminals for Transaction Routing (MRO, LUTYPE 6.2)
  - Terminal List Table (TLT)
  - Temporary Storage Table (TST)
  - Transaction List Table (XLT)


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## Resource Definition...

- Methods for defining CICS TS resources
  - Resource Definition Online (RDO)
    - Programs, transactions, VTAM terminals, VSAM files, sessions, connections
  - DFHCSDUP batch utility program
    - Programs, transactions, VTAM terminals, VSAM files, sessions, connections
  - Automatic installation (Autoinstall)
    - VTAM terminals, programs


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## Resource Definition...

- Methods for defining CICS TS resources...
  - Macro definition (tables)
    - Files, SAM terminals
    - Everything else
  - System Programming Interface
    - Many resources
    - Not permanently recorded anywhere (CSD or table)


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## Objects to be Defined

- Resources
  - Transactions, programs, files, terminals, etc.
  - Each must be defined as part of some Group
- Groups
  - Grouping of resources
  - Guidelines for groups
    - Keep groups small, <100 resource definitions per group
    - Logical groupings (by application, by control units, etc.)
    - Keep TYPETERMS in one group


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## Objects to be Defined...

- Lists
  - A list of groups that CICS activates on a CICS COLD start
  - Specified in SIT GRPLIST=list parameter
    - Up to 4 lists can be specified during startup
  - GRPLIST *not* used on WARM or EMER restart
  - Duplicate definitions
    - RDO definition replaces duplicates from macro table
    - Last group processed replaces duplicate in earlier groups



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## System Definition File

- Repository for objects
  - Resources, groups, lists
- VSAM KSDS dataset
- Can be shared by multiple CICS partitions
  - Same VSE system
  - Multiple VSE systems
  - CICS TS and CICS/VSE 2.3
- Should back up regularly
  - Now a critical resource



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## System Definition File...

- Supplied Definitions
  - CICS TS
    - DFHLIST - CICS startup list
    - DFHxxxx - CICS Groups
    - DFHxxxx - CICS Resources (Supplied CICS transactions, programs, terminals)
    - DFHTERM, DFHTYPE - Supplied CICS TERMINAL and TYPETERM definitions
    - DFH groups and lists are protected, copy to user defined group or list to modify



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## System Definition File...

## ■ Supplied Definitions ...

- VSE/ESA
  - VSELIST - VSE CICS startup list (includes many DFH groups)
  - VSESPG, CEE, TCP/IP, VSEAI62 - VSE Groups
  - All except DFHxx - VSE Resources for IUI, DITTO, ICCF, etc.
  - VSETERM, VSETERM1, VSETYPE - Supplied VSE TERMINAL and TYPETERM definitions
  - VSE groups and lists are not protected and can be modified.



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## System Definition File...

## Backup CSD

```
* $$ JOB JNM=CSDBACK, DISP=D, CLASS=A
// JOB CSDBACK
// LIBDEF PHASE, SEARCH=IJSYSRS.SYSLIB
// DLBL IJSYSUC, 'VSESP.USER.CATALOG', , VSAM
// PAUSE **** MOUNT OUTPUT TAPE FOR CSD BACKUP
// TLBL VSMRKUP, 'CSD.BACKUP', 100, '111111'
// ASSIGN SYS005, 570
// EXEC IDCAMS, SIZE=AUTO
//   BACKUP (
//     CICS.CSD -
//   ) -
//   UNLD -
//   NOCOMPACT -
//   BUFFERS (3) -
//   STDLABEL (VSMRKUP)
/*
/5
* $$ EOJ
```



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## System Definition File...

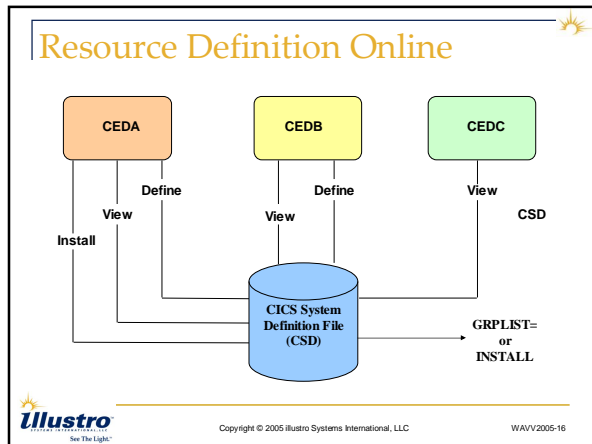
## Restore CSD

```
* $$ JOB JNM=CSDREST, DISP=L, CLASS=A
// JOB CSDREST RESTORE CICS CSD
// LIBDEF PHASE, SEARCH=IJSYSRS.SYSLIB
// PAUSE
// TLBL VSMRST, 'CSD.BACKUP', , '111111'
// ASSIGN SYS004, 570
// EXEC IDCAMS, SIZE=AUTO
//   RESTORE OBJECTS (
//     (CICS.CSD -
//   ) -
//   CATALOG (VSESP.USER.CATALOG) -
//   STDLABEL (VSMRST) -
//   UNLD -
//   BUFFERS (3)
/*
/5
* $$ EOJ
```



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## Resource Definition Online...

- Transactions
  - CEDA
    - Full set of RDO commands
    - Define, change, delete and activate (INSTALL) resource definitions
  - CEDB
    - All commands except INSTALL command
  - CEDC
    - Read only commands
    - VIEW, EXPAND, DISPLAY

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## Resource Definition Online...

- Commands
  - Resource Management
    - DEFINE
      - Creates a resource definition
    - ALTER
      - Modify the attributes of a resource (or resources)
    - VIEW
      - Display the attributes of a resource (or resources)
    - COPY
      - Creates new resources from existing definitions

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Resource Definition Online...

■ Commands...

□ Resource Management...

■ DELETE

□ Delete resource definitions

■ MOVE

□ Change the groupings of resources

■ RENAME

□ Change the names of resources



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Resource Definition Online...

■ Commands...

□ List management

■ ADD

□ Adds a group to an existing list

□ Creates a new list if the list does not exist

■ REMOVE

□ Removes a group from a list

□ Deletes the list when the last group is removed

■ APPEND

□ Creates a new list from an existing list or combines lists



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Resource Definition Online...

■ Commands...

□ General Purpose

■ CHECK

□ Cross-checks definitions in a group or list

■ DISPLAY


□ Shows the names of groups or lists on the CSD file

■ EXPAND

□ Shows the contents of groups or lists

■ LOCK, UNLOCK

□ Controls update access to groups and lists



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Resource Definition Online...

■ Commands...

□ General Purpose...

■ INSTALL

□ Dynamically adds resources to the running CICS system


▪ Inactive resources replaced

▪ Active resources not replaced

□ Installed definitions stored in CICS global catalog

▪ Effective across WARM or EMER restart

□ Add new groups to list in SIT GRPLIST for CICS COLD start



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Resource Definition Online...

■ Example

□ Define (in a Group named DEMOGRP)

■ A VSAM KSDS named TESTFIL


■ A LSRPOOL named DEMOLSR

■ A Program named TESTPROG

■ A Transaction named TEST calling TESTPROG

■ A Transaction Class named TRANCL5

■ A Terminal named TRM1



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Resource Definition Online...

■ Example...

□ Install Group DEMOGRP

■ Allows testing

■ Remains installed across WARM and EMER starts


□ Add the Group to List VSELIST

■ Will be installed at every COLD start

□ Expand the group to view contents

□ Modify the Group

■ Copy, rename, and delete resources



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Resource Definition Online...

Invoke CEDA


```

define
ENTER ONE OF THE FOLLOWING

Add
Alter
Append
Check
Copy
DEFINE
Delete
Display
Expand
Install
Lock
Move
REMove
REName
UNLock
Userdefine
View

SYSID=CIC1 APPLID=DBDOCICS

PF 1 HELP      3 END      6 CRSR      9 MSG      12 CNCL
                    
```



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Resource Definition Online...

Invoke CEDA to Define File


```

DEFINE file
ENTER ONE OF THE FOLLOWING

Connection
Doctemplate
File
Larpool
Mapset
PARTitionset
PARTner
PROFile
PROgram
Sessions
TcpiService
TERminal
TRANClass
TRANSection
TTPeterm

SYSID=CIC1 APPLID=DBDOCICS

PF 1 HELP      3 END      6 CRSR      9 MSG      12 CNCL
                    
```



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Resource Definition Online...


Define File - Screen 1

```

DEFINE FILE
OVERRIDE TO MODIFY
CEDA Define File(      )      CICS RELEASE = 0410
File      ==>
Group     ==>
DEScripti ==>
VSAM PARAMETERS
DSName    ==>
Password  ==>      PASSWORD NOT SPECIFIED
Larpoolid ==> 01      1-15 | None
CatName   ==>
DSNSharing ==> Noreqs      Noreqs | Allreqs | Modfyreqs
STRINGS   ==> 001      1-255
Msggroup  ==>
SHR4access ==> Key      Key | Rba
REMOTE ATTRIBUTES
REMOtesys ==>
REMOteName ==>
RECORDSize ==>      1-32767
+ KeyLength ==>      1-255
MESSAGES: 2 SEVERE

SYSID=CIC1 APPLID=DBDOCICS

PF 1 HELP 2 COM 3 END      6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
                    
```



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Resource Definition Online...

Define File - Screen 2

```

DEFINE FILE
OVERTYPE TO MODIFY
CEDA DEFINE File(
+ INITIAL STATUS
Status ==> Enabled          Enabled | Disabled | Unenabled
Opentime ==> Firstref       Firstref | Startup
BUFFERS
Databuffers ==> 2-32767
Indexbuffers ==> 1-32767
DATATABLE PARAMETERS
Table ==> No                No | Cics | User
Maxrecords ==> 16-16777215
DATA FORMAT
RECORDFormat ==> V          V | F
OPERATIONS
Add ==> No                  No | Yes
Browse ==> No               No | Yes
Delete ==> No               No | Yes
READ ==> Yes                Yes | No
+ Update ==> No              No | Yes
MESSAGES: 2 SEVERE
SYSID=CIC1 APPLID=DNDDCICS
PF 1 HELP 2 COM 3 END          6 CSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

```



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Resource Definition Online...

Define File - Screen 3

```

DEFINE FILE
OVERTYPE TO MODIFY
CEDA DEFINE File(
+ AUTO JOURNALING
Journal ==> No              No | 1-99
JNLRead ==> None            None | Updateonly | Readonly | All
JNLWRCread ==> No           No | Yes
JNLUpdate ==> No            No | Yes
JNLAdd ==> None             None | Before | After | All
JNLWRCWrite ==> Yes         Yes | No
RECOVERY PARAMETERS
RECOVERY ==> None            None | Backoutonly | All
Pwrecovery ==> No           No | 1-99
MESSAGES: 2 SEVERE
SYSID=CIC1 APPLID=DNDDCICS
PF 1 HELP 2 COM 3 END          6 CSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

```



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Resource Definition Online...

View Error Messages - PF9

```

DEFINE FILE
MESSAGES USE ENTER TO RETURN
S No GROUP value has been previously specified so there is no current value
to assume.
S An object must be specified.
SYSID=CIC1 APPLID=DNDDCICS
PF 1 HELP          3 END          6 CSR 7 SBR 8 SFH          10 SB 11 SF 12 CNCL

```



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**Resource Definition Online...**

**Define File - Successful Define - Screen 1**

```
OVERTYPE TO MODIFY                                CICS RELEASE = 0410
CEDA Define File( TESTFIL )
File      : TESTFIL
Group     : DEMOGRP
Description ==> THIS IS A TEST FILE

VSAM PARAMETERS
DSName    ==>
Password  ==>                PASSWORD NOT SPECIFIED
Lsrpoolid ==> 10              1-15 | None
Catname   ==>
DSNSharing ==> Noreqs        Noreqs | Allreqs | Modifysreqs
STRings   ==> 005            1-255
Mergroup  ==>
SRStacess ==> Key            Key | Rba

REMOTE ATTRIBUTES
REMOVEDSystem ==>
REMOVEDName ==>
RECORDSize ==>                1-32767
+ Keylength ==>                1-255
I New group DEMOGRP created.

DEFINE SUCCESSFUL                                SYSID=CIC1 APPLID=BDCCICS
TIME: 16.30.44 DATE: 00.028
PF 1 HELP 2 COM 3 END                          6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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**Resource Definition Online...**

**Define LSR Pool**

```
define lsrpool
ENTER ONE OF THE FOLLOWING

Add
Alter
Append
Check
Copy
DEFile
Delete
Display
Expand
Install
Lock
Move
REMove
REName
UNLock
UNsharedefine
View

SYSID=CIC1 APPLID=BDCCICS
PF 1 HELP      3 END      6 CRSR      9 MSG      12 CNCL
```

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**Resource Definition Online...**

**Define LSR Pool - Screen 1**

```
DEFINE LSRPOOL G(DEMOGRP)                                CICS RELEASE = 0410
OVERTYPE TO MODIFY
CEDA Define Lsrpool(
Lsrpool ==>
Group ==> DEMOGRP
Description ==>
Lsrpoolid ==> 01              1-15
Maxkeylength ==>              0-255
Sharelimit ==>              1-100
STRings ==>              1-255

DATA BUFFERS
DATA512 ==>              3-32767
DATA1K ==>              3-32767
DATA2K ==>              3-32767
DATA4K ==>              3-32767
DATA8K ==>              3-32767
DATA12K ==>              3-32767
DATA16K ==>              3-32767
DATA20K ==>              3-32767
+ DATA24K ==>              3-32767
S An object must be specified.

SYSID=CIC1 APPLID=BDCCICS
PF 1 HELP 2 COM 3 END                          6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...

**Define LSR Pool - Screen 2**

```
DEFINE LSRPOOL G (DEMOGRP)
OVERTYPE TO MODIFY                                CICS RELEASE = 0410
CEDA Define Lsrpool(                               )
+ DATA28k ==> 3-32767
DATA12k ==> 3-32767
INDEX BUFFERS
INDEXS12 ==> 3-32767
INDEXS16 ==> 3-32767
INDEXK2K ==> 3-32767
INDEX4k ==> 3-32767
INDEX8k ==> 3-32767
INDEX12k ==> 3-32767
INDEX16k ==> 3-32767
INDEX20k ==> 3-32767
INDEX24k ==> 3-32767
INDEX28k ==> 3-32767
INDEX32k ==> 3-32767

S An object must be specified.                      SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP 2 COM 3 END                               6 CRSR 7 SBR 8 SPH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...

**Define LSR Pool Successful Define - Screen 1**

```
OVERTYPE TO MODIFY                                CICS RELEASE = 0410
CEDA Define Lsrpool( DEMOLSR )
Lsrpool : DEMOLSR
Group : DEMOGRP
DEscription ==>
Lsrpoolid ==> 06 1-15
Maxkeylength ==> 030 0-255
SSharelimit ==> 1-100
Strings ==> 010 1-255
DATA BUFFERS
DATA512 ==> 3-32767
DATA1K ==> 3-32767
DATA2K ==> 3-32767
DATA4k ==> 00010 3-32767
DATA8k ==> 00008 3-32767
DATA12k ==> 00014 3-32767
DATA16k ==> 3-32767
DATA20k ==> 3-32767
+ DATA24k ==> 3-32767

DEFINE SUCCESSFUL                                SYSID=CIC1 APPLID=DBDCCICS
PF 1 HELP 2 COM 3 END                               6 CRSR 7 SBR 8 SPH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...


**Define Program**

```
define prog
ENTER ONE OF THE FOLLOWING

Add
Alter
Append
Check
Copy
Define
DElete
Display
Expand
Install
Lock
Move
REMove
REName
UNLock
USerdefine
View

SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP 3 END 6 CRSR 9 MSG 12 CNCL
```

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Resource Definition Online...

Define Program - Screen 1

```
DEFINE PROGRAM
OVERTYPE TO MODIFY
CEDA Define Program(      )      CICS RELEASE = 0410
Program ==>
Group ==> DEMOGRP
Description ==>
Language ==> COBOL | Assembler | C | Pli
Reload ==> No                      No | Yes
Resident ==> No                   No | Yes
Usage ==> Normal                 Normal | Transient
Usevacopy ==> No                 No | Yes
Status ==> Enabled              Enabled | Disabled
RSL : 00                        0-24 | Public
Cedf ==> Yes                    Yes | No
DataLocation ==> Below          Below | Any
EXECKey ==> User                User | Cics
REMOTE ATTRIBUTES
REMOTESystem ==>
REMOTEName ==>
+ Transid ==>
S An object must be specified.
SYSID=CIC1 APPLID=DBDCCICS
PF 1 HELP 2 COM 3 END          6 CSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...

Define Program - Screen 2

```
DEFINE PROGRAM
OVERTYPE TO MODIFY
CEDA Define Program(      )      CICS RELEASE = 0410
+ EXECUTIONSET ==> Fullapi       Fullapi | Dplsubset
S An object must be specified.
SYSID=CIC1 APPLID=DBDCCICS
PF 1 HELP 2 COM 3 END          6 CSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...

Define Program - Successful Define - Screen 1

```
OVERTYPE TO MODIFY
CEDA Define Program( TESTPROG )  CICS RELEASE = 0410
Program : TESTPROG
Group : DEMOGRP
Description ==> THIS IS A TEST PROGRAM
Language ==> COBOL                COBOL | Assembler | C | Pli
Reload ==> No                      No | Yes
Resident ==> No                   No | Yes
Usage ==> Normal                 Normal | Transient
Usevacopy ==> No                 No | Yes
Status ==> Enabled              Enabled | Disabled
RSL : 00                        0-24 | Public
Cedf ==> Yes                    Yes | No
DataLocation ==> Any            Below | Any
EXECKey ==> User                User | Cics
REMOTE ATTRIBUTES
REMOTESystem ==>
REMOTEName ==>
+ Transid ==>
DEFINE SUCCESSFUL
TIME: 16.36.22 DATE: 00.028
PF 1 HELP 2 COM 3 END          6 CSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...


Define Transaction

```
define trans
ENTER ONE OF THE FOLLOWING

Add
Alter
Append
Check
Copy
DEFINE
Delete
Display
Expand
Install
Lock
Move
REMove
REName
UNlock
USerdefine
View

SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP      3 END      6 CRSR      9 MSG      12 CNCL
```

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Resource Definition Online...

Define Transaction - Screen 1

```
DEFINE TRANS
OVERRIDE TO MODIFY          CICS RELEASE = 0410
CEDA DEFINE TRANSACTION(    )
TRANSACTION ==>
Group ==> DEMOGRP
Description ==>
PROGRAM ==>
TWASize ==> 00000          0-32767
PROFILE ==> DFHCICST
PARTITIONSET ==>
STATUS ==> Enabled          Enabled | Disabled
PRImedsize ==> 00000        0-65520
TASKSDATALoc ==> Below      Below | Any
TASKSDATAMay ==> User        User | Cics
STOrageclear ==> No          No | Yes
RUNaway ==> System          System | 0 | 500-2700000
SHUTDOWN ==> Disabled        Disabled | Enabled
REMOTE ATTRIBUTES
DYnamic ==> No              No | Yes
+ REMOTEsystem ==>
$ An object must be specified.

SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP 2 COM 3 END      6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...

Define Transaction - Screen 2

```
DEFINE TRANS
OVERRIDE TO MODIFY          CICS RELEASE = 0410
+ REMOTEName ==>
TRAns ==>
Localq ==>
SCHEDULING
PRIOrity ==> 001          0-255
TClass : No          No | 1-10
TRANClass ==>
ALIASes
Alias ==>
TASKReq ==>
XTNameid ==>
TPName ==>
XTPName ==>
+ RECOVERY
$ An object must be specified.

SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP 2 COM 3 END      6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...

Define Transaction - Screen 3

```
DEFINE TRANS
OVERTYPE TO MODIFY
CEDA Define Transaction( ) CICS RELEASE = 0410
+ DTimeout ==> No No | 1-6800
  Indoubt ==> Backout Backout | Commit | Wait
  REstart ==> No No | Yes
  SPurge ==> No No | Yes
  TRurge ==> No No | Yes
  DUp ==> Yes Yes | No
  TRAc ==> Yes Yes | No
  Cnfdata ==> No No | Yes
SECURITY
RESec ==> No No | Yes
CMssec ==> No No | Yes
Extsec : No No | Yes
TRANSec : 01 1-64
RSL : 00 0-24 | Public

S An object must be specified.
SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP 2 COM 3 END 6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...

Define Transaction - Successful Define - Screen 1

```
OVERTYPE TO MODIFY
CEDA Define Transaction( TEST ) CICS RELEASE = 0410
Transaction : TEST
Group : DEMOGRP
Description ==> THIS IS A TEST TRANSACTION
PROgram ==> TESTPROG
TWasize ==> 00200 0-32767
PROfile ==> DFHCICST
Partitionset ==>
Status ==> Enabled Enabled | Disabled
PRIMedsize : 00000 0-65520
TASKDATAloc ==> Any Below | Any
TASKDATAkey ==> User User | Cics
STOrageclear ==> No No | Yes
RUWay ==> System System | 0 | 500-2700000
SHutdown ==> Disabled Disabled | Enabled
REMOTE ATTRIBUTES
Dynamic ==> No No | Yes
+ REMOTESystem ==>

DEFINE SUCCESSFUL
TIME: 16.39.12 DATE: 00.028
PF 1 HELP 2 COM 3 END 6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL
```

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Resource Definition Online...

Define Transaction Class

```
define transclass
ENTER ONE OF THE FOLLOWING
Add
Alter
Append
Check
Copy
Define
DElete
Display
Expand
Install
Lock
Move
REMove
REName
UNLock
USerdefine
View

SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP 3 END 6 CRSR 9 MSG 12 CNCL
```

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Resource Definition Online...

Define Transaction Class - Screen 1


```

DEFINE TRANCLASS
OVERTYPE TO MODIFY
CEDA Define TRANClass (      )      CICS RELEASE = 0410
TRANClass ==>
Group ==>
Description ==>
CLASS LIMITS
Maxactive ==> 0-999
Purgethresh ==> No      No | 1-1000000

MESSAGES: 2 SEVERE
SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP 2 COM 3 END      6 CRSR 7 SBE 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

```



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Resource Definition Online...

Define Transaction Class - Successful Define - Screen 1


```

OVERTYPE TO MODIFY
CEDA Define TRANClass ( TRANCL5 )      CICS RELEASE = 0410
TRANClass : TRANCL5
Group : DBDCCRP
Description ==>
CLASS LIMITS
Maxactive ==> 005      0-999
Purgethresh ==> No      No | 1-1000000

DEFINE SUCCESSFUL
TIME: 16.13.00 DATE: 00.131
SYSID=CIC1 APPLID=DBDCCICS

PF 1 HELP 2 COM 3 END      6 CRSR 7 SBE 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

```



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Resource Definition Online...

Define Terminal


```

define term
ENTER ONE OF THE FOLLOWING

Add
Alter
Append
Check
Copy
DEfine
DElete
Display
Expand
Install
Lock
Move
REMove
REName
UNlock
USerdefine
View

PF 1 HELP      3 END      6 CRSR      9 MSG      12 CNCL

```



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Resource Definition Online...

Define Terminal - Screen 1

```

DEFINE TERM
OVERRIDE TO MODIFY
CEDA DEFINE Terminal(      )      CICS RELEASE = 0410
Terminal ==>
Group ==> DEMOGRP
Description ==>
AUTINSTModel ==> No      No | Yes | Only
AUTINSTName ==>
TERMINAL IDENTIFIERS
Tipeterm ==>
Netname ==>
Consname ==>
REMOTESystem ==>
REMOTEName ==>
REMOTESYSNet ==>
Modename ==>
ASSOCIATED PRINTERS
PRINTER ==>
PRINTERCopy ==> No      No | Yes
+ ALTPRINTER ==>
S An object must be specified.
SYSID=CIC1 APPLID=DBDCCICS
PF 1 HELP 2 COM 3 END      6 CRSR 7 SBN 8 SPH 9 MSG 10 SB 11 SF 12 CNCL

```



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Resource Definition Online...

Define Terminal - Screen 2

```

DEFINE TERM
OVERRIDE TO MODIFY
CEDA DEFINE Terminal(      )      CICS RELEASE = 0410
+ ALTPRINTERCopy ==> No      No | Yes
SPOOLTo ==>
PIPELINE PROPERTIES
Pool ==>
TaskLimit ==> No      No | 1-32767
OPERATOR DEFAULTS
OPERId :
OPERPriority : 000      0-255      0-24,...
OPERRal : 0      1-64,...
OPERSecurity : 1
PRSET SECURITY
USERid ==>
NAtLang ==>
TERMINAL USAGES
Transaction ==>
TERmpriority ==> 000      0-255
+ Inservic ==> Yes      Yes | No
S An object must be specified.
SYSID=CIC1 APPLID=DBDCCICS
PF 1 HELP 2 COM 3 END      6 CRSR 7 SBN 8 SPH 9 MSG 10 SB 11 SF 12 CNCL

```



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Resource Definition Online...

Define Terminal - Screen 3

```

DEFINE TERM
OVERRIDE TO MODIFY
CEDA DEFINE Terminal(      )      CICS RELEASE = 0410
+ PRINTER DATA
SPOOLDest ==> 00      0-24 | Public
SPOOLPRtto ==> 00      0-59
SPOOLFcb ==>
PRINTEmsg ==> No      No | Yes
PRINTImmed ==> No      No | Yes
SESSION SECURITY
SECurityname ==>
ATTachsec ==> Local      Local | Identify | Verify | Persistent
| Mxldgpe
BINDPassword ==>
BINDSecurity ==> No      PASSWORD NOT SPECIFIED
| No | Yes
USEDftuser ==> No      No | Yes
S An object must be specified.
SYSID=CIC1 APPLID=DBDCCICS
PF 1 HELP 2 COM 3 END      6 CRSR 7 SBN 8 SPH 9 MSG 10 SB 11 SF 12 CNCL

```



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Resource Definition Online...

Define Terminal - Successful Define - Screen 1

OVERTYPE TO MODIFY CICS RELEASE = 0410

CEDA Define Terminal( TRM1 )

Terminal : TRM1

Group : DEMOGRP

Description ==> THIS IS A TEST TERMINAL

AUTINSTModel ==> No No | Yes | Only

AUTINSTName ==>

TERMINAL IDENTIFIERS

Typeterm ==> DPH3270

HEname ==> RMIXYZ

Connname ==>

REMOTESYSTEM ==>

REMOTENAME ==>

REMOTESYSNet ==>

Modename ==>

ASSOCIATED PRINTERS

PRINTER ==>

PRINTERCopy ==> No No | Yes

+ ALTPRINTER ==>


DEFINE SUCCESSFUL

PF 1 HELP 2 COM 3 END

TIME: 16.42.31 DATE: 00.028

SYSID=CIC1 APPLID=0B0CCICS

6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL



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Resource Definition Online...

Install Group

i g(demogrp)

ENTER ONE OF THE FOLLOWING

Add

Alter

Append

Check

Copy

DEFINE

Delete

Display

Expand

Install

Lock

Move

REMOVE

REName


UNLock

Userdefine

View

SYSID=CIC1 APPLID=0B0CCICS

PF 1 HELP 3 END 6 CRSR 9 MSG 12 CNCL



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Resource Definition Online...

Install the Group - Results

I G(DEMOGRP)

OVERTYPE TO MODIFY

CEDA Install

All

Connection ==>

File ==>

Lspool ==>

Mapset ==>

PARTitionset ==>

PARTner ==>

PROFile ==>

PROgram ==>

TERminal ==>

TRANClass ==>

TRANsaction ==>

Typeterm ==>

Group ==> DEMOGRP


INSTALL SUCCESSFUL

PF 1 HELP 3 END

TIME: 10.45.07 DATE: 99.244

SYSID=CIC1 APPLID=0B0CCICS

6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL



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Resource Definition Online...

### Add the Group to a List

```
add g(demogrp) l(vselist)
ENTER ONE OF THE FOLLOWING

Add
Alter
Append
Check
Copy
DEfine
DElete
Display
Expand
Install
Lock
Move
REmove
REName
UNlock
USerdefine
View

SYSID=CIC1 APPLID=DBDCICIS

PF 1 HELP      3 END      6 CSR  9 MSG  12 CNCL
```

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Resource Definition Online...

### Add Group to List - Results

```
ADD G (DEMOGRP) L (VSELIST)
OVERTYPE TO MODIFY
CEDA Add
Group ==> DEMOGRP
List ==> VSELIST
Before ==>
After ==>

ADD SUCCESSFUL
TIME: 11.08.00 DATE: 99.244

PF 1 HELP      3 END      6 CSR  7 SBR  8 SFR  9 MSG  10 SB  11 SF  12 CNCL
```

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Resource Definition Online...

### Expand Group to View Contents

```
ex g(demogrp)
ENTER ONE OF THE FOLLOWING

Add
ALTER
Append
Check
Copy
DEfine
DElete
Display
Expand
Install
Lock
Move
REmove
REName
UNlock
USerdefine
View

SYSID=CIC1 APPLID=DBDCICIS

PF 1 HELP      3 END      6 CSR  9 MSG  12 CNCL
```

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**Resource Definition Online...**

**Expand Group - Results**

```

E G (DEMOGRP)
ENTER COMMANDS
NAME      TYPE      GROUP      DATE      TIME
DEMOLSR   LSRPOOL   DEMOGRP   00.131    14.20.41
TESTFIL   FILE       DEMOGRP   00.028    16.30.43
TESTPROG  PROGRAM   DEMOGRP   00.131    16.20.20
TRM1      TERMINAL   DEMOGRP   00.131    16.21.13
TRANCL5   TRANCLAS  DEMOGRP   00.131    16.12.59
TEST      TRANSACTION DEMOGRP   00.028    16.39.12

RESULTS: 1 TO 6 OF 6
PF 1 HELP      3 END 4 TOP 5 BOT 6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

SYSID=CIC1 APPLID=DEMOCCICS
TIME: 16.21.24 DATE: 00.131

```

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**Resource Definition Online...**

**Expand Group to View Transactions**

```

ex g (demogrp) trans (*)
ENTER ONE OF THE FOLLOWING
Add
Alter
Append
Check
Copy
DEPine
Delete
Display
Expand
Install
Lock
Move
REMove
REName
UNLock
Userdefine
View

SYSID=CIC1 APPLID=DEMOCCICS
PF 1 HELP      3 END      6 CRSR      9 MSG      12 CNCL

```

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**Resource Definition Online...**

**View Transactions - Results**

```

EX G (DEMOGRP) TRANS (*)
ENTER COMMANDS
NAME      TYPE      GROUP      DATE      TIME
TEST      TRANSACTION DEMOGRP   99.244    10.36.54

RESULTS: 1 TO 1 OF 1
PF 1 HELP      3 END 4 TOP 5 BOT 6 CRSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

SYSID=CIC1 APPLID=DEMOCCICS
TIME: 11.26.13 DATE: 99.244

```

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Resource Definition Online...

Copy, Rename, Delete Resources in Group


E G (DEMOGRP)  
ENTER COMMANDS

NAME	TYPE	GROUP	DATE	TIME
DEMOLSR	LSRPOOL	DEMOGRP	00.131	14.20.41
TESTFIL	FILE	DEMOGRP	00.028	16.30.43
TESTPROG	PROGRAM	DEMOGRP	00.131	16.20.20
TRM1	TERMINAL	DEMOGRP	00.131	16.21.13
TRMCL5	TRANCLASS	DEMOGRP	00.131	16.12.59
TEST	TRANSACTION	DEMOGRP	00.028	16.39.12

RESULTS: 1 TO 6 OF 6  
PF 1 HELP

3 END 4 TOP 5 BOT 6 CRSR 7 SBN 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

SYSID=CIC1 APPLID=QBDDCICS  
TIME: 16.21.24 DATE: 00.131

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Resource Definition Online...

Copy, Rename, Delete Resources - Results


E G (DEMOGRP)  
ENTER COMMANDS

NAME	TYPE	GROUP	DATE	TIME
DEMOLSR	LSRPOOL	DEMOGRP	00.131	14.20.41
TESTFIL	FILE	DEMOGRP	*O AS (NEWFILE)	COPY SUCCESSFUL
PROG1	PROGRAM	DEMOGRP	*ENAME AS (PROG1)	RENAME SUCCESSFUL
			*EL	
TRMCL5	TRANCLASS	DEMOGRP	00.131	16.12.59
TEST	TRANSACTION	DEMOGRP	00.028	16.39.12

RESULTS: 1 TO 6 OF 6  
PF 1 HELP

3 END 4 TOP 5 BOT 6 CRSR 7 SBN 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

SYSID=CIC1 APPLID=QBDDCICS  
TIME: 16.24.25 DATE: 00.131

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Resource Definition Online...

Resultant Group


E G (DEMOGRP)  
ENTER COMMANDS

NAME	TYPE	GROUP	DATE	TIME
DEMOLSR	LSRPOOL	DEMOGRP	00.131	14.20.41
NEWFILE	FILE	DEMOGRP	00.131	16.24.24
TESTFIL	FILE	DEMOGRP	00.028	16.30.43
PROG1	PROGRAM	DEMOGRP	00.131	16.24.24
TRMCL5	TRANCLASS	DEMOGRP	00.131	16.12.59
TEST	TRANSACTION	DEMOGRP	00.028	16.39.12

RESULTS: 1 TO 6 OF 6  
PF 1 HELP

3 END 4 TOP 5 BOT 6 CRSR 7 SBN 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

SYSID=CIC1 APPLID=QBDDCICS  
TIME: 16.25.36 DATE: 00.131

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**Resource Definition Online...**

**Forgot Group Names**

```

DI GR(*)
ENTER COMMANDS
GROUP
CACIS
CADYNAM
CAEXPLOR
CAISM
CATOPREC
CAVOLIE
CEE
CICREX
DDNJ
DFHSCCT
DFHSAFLA
DFHSMSP
DFHSSR
DFHSCFLA
DFHSCXT
DFHSAFLA
+ DFHSEKCI
    
```

RESULTS: 1 TO 17  
PF 1 HELP 3 END 4 TOP 5 BOT 6 CSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

SYSD=CIC1 APPLID=DDOCCIS  
TIME: 16.25.36 DATE: 00.131

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**Resource Definition Online...**

**What group is resource in**

```

EX GR(*) TRANS (CEDF)
ENTER COMMANDS
NAME TYPE GROUP DATE TIME
CEDF TRANSACTION DFHEDF 98.198 18.31.35
CEDF TRANSACTION ITSSPG 00.034 11.17.35
CEDF TRANSACTION VSESPG 00.032 09.59.25
    
```

RESULTS: 1 TO 17  
PF 1 HELP 3 END 4 TOP 5 BOT 6 CSR 7 SBR 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

SYSD=CIC1 APPLID=DDOCCIS  
TIME: 16.25.36 DATE: 00.131

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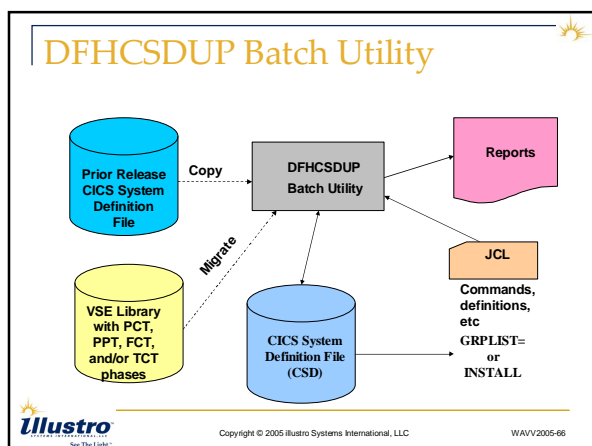
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## DFHCSDUP Batch Utility...

- Manage the CSD File
- Report on CSD contents
- Extract data from the CSD
- Define and maintain resources in the CSD
- Migrate resources from macro tables
  - PCT, PPT, TCT, FCT


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## DFHCSDUP Batch Utility...

- Commands
  - Manage the CSD file
    - INITIALIZE - create new CSD
    - UPGRADE - upgrade CSD with new release definitions
    - SERVICE - apply maintenance to CSD
    - VERIFY - release internal locks


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## DFHCSDUP Batch Utility...

- Commands...
  - Report on the CSD file
    - LIST - produce listings of objects in CSD
  - Extract data from the CSD
    - EXTRACT - extract definitions from CSD
  - Migrate resources from macro tables
    - MIGRATE - convert PCT, PPT, TCT, and FCT table entries to RDO
    - Reads phases from VSE libraries


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## DFHCSDUP Batch Utility...

## ■ Commands...

## □ Process objects

- ADD, REMOVE a group to/from a list
- ALTER a resource definition
- APPEND a list to another list
- COPY a group to another group
- DEFINE a resource
- DELETE a group or list
- USERDEFINE a resource definition using your own defaults



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## DFHCSDUP Batch Utility...

## Define Resources

```
* $$ JOB JNM=DEFGROUP,DISP=D,CLASS=0
// JOB DEFGROUP   DEFINE GROUP DEMOGRP
// EXEC DFHCSDUP
DELETE G(DEMOGRP)
DEFINE FILE(TESTFIL)      GROUP(DEMOGRP)  LSRPOOL(10)
      STRINGS(5)          DA(6)          IN(5)
      RECORDF(F)          BROWSE(YES)    UPDATE(YES)
DEFINE TRANS(TEST)        GROUP(DEMOGRP)  PROGRAM(TESTFROG)
      TWA(200)            TASKDATALOC(ANY)
DEFINE PROGRAM(TESTPROG)  GROUP(DEMOGRP)  LANG(COBOL)
      DATA(ANY)
/*
/6
* $$ EOJ
```



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## DFHCSDUP Batch Utility...

## ■ Migrate existing table definitions

- Remove IBM CICS and VSE entries from table source
- Use DFHxxx TYPE=GROUP, GROUP=name entries to generate multiple groups
- OR
- Break each table up into smaller parts, each part becoming a group



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## DFHCSDUP Batch Utility...

## Using DFHxxx TYPE=GROUP

```

PRINT ON,NOGEN
DFHPPT TYPE=INITIAL,SUFFIX=JM
DFHPPT TYPE=GROUP,GROUP=A001
DFHPPT TYPE=ENTRY,PROGRAM=PROG01,PGMLANG=ASSEMBLER
DFHPPT TYPE=ENTRY,PROGRAM=PROG02,PGMLANG=ASSEMBLER
DFHPPT TYPE=ENTRY,PROGRAM=PROG03,PGMLANG=ASSEMBLER
DFHPPT TYPE=ENTRY,PROGRAM=PROG04,PGMLANG=ASSEMBLER
DFHPPT TYPE=ENTRY,PROGRAM=PROG05,PGMLANG=ASSEMBLER
DFHPPT TYPE=GROUP,GROUP=C001
DFHPPT TYPE=ENTRY,PROGRAM=PROG11,PGMLANG=COBOL
DFHPPT TYPE=ENTRY,PROGRAM=PROG12,PGMLANG=COBOL
DFHPPT TYPE=ENTRY,PROGRAM=PROG13,PGMLANG=COBOL
DFHPPT TYPE=ENTRY,PROGRAM=PROG14,PGMLANG=COBOL
DFHPPT TYPE=ENTRY,PROGRAM=PROG15,PGMLANG=COBOL
DFHPPT TYPE=FINAL
END

```



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## DFHCSDUP Batch Utility...

## ■ Migrate existing table definitions...

- Assemble and linkedit table with CICS TS libraries
- Use MIGRATE command to create CSD entries
  - Processes assembled table phases
  - Default group names are xxxnn where
    - xxx is table type (FCT, PPT, PCT, TCT)
    - nn is table suffix
  - TOGROUP(groupname) can be specified for PCT and PPT



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## DFHCSDUP Batch Utility...

## MIGRATE Job

```

* $$ JOB JNM=MIGR,DISP=D,CLASS=0
// JOB MIGR    MIGRATE CICS TABLE TO RDO
// LIBDEF PHASE,SEARCH=(PRD2.CONFIG,PRD1.BASE)
// EXEC DFHCSDUP
MIGRATE TABLE(DFHPPTJM)
/*
/ &
* $$ EOJ

```



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## DFHCSDUP Batch Utility...

### Output from MIGRATE Job

```

MIGRATE TABLE (DFHPPTJM)
DFHCA5120 I PRIMARY CSD OPENED; FILENAME: DFHCSD
DFHCA5144 I MIGRATION OF TABLE DFHPPTJM IN PROGRESS. DEFAULT GROUP IS PPTJM
DFHCA5143 I GROUP A001 CREATED.
DFHCA5159 I PROGRAM PROG01 DEFINED IN GROUP A001
DFHCA5159 I PROGRAM PROG02 DEFINED IN GROUP A001
DFHCA5159 I PROGRAM PROG03 DEFINED IN GROUP A001
DFHCA5159 I PROGRAM PROG04 DEFINED IN GROUP A001
DFHCA5159 I PROGRAM PROG05 DEFINED IN GROUP A001
DFHCA5143 I GROUP C001 CREATED.
DFHCA5159 I PROGRAM PROG11 DEFINED IN GROUP C001
DFHCA5159 I PROGRAM PROG12 DEFINED IN GROUP C001
DFHCA5159 I PROGRAM PROG13 DEFINED IN GROUP C001
DFHCA5159 I PROGRAM PROG14 DEFINED IN GROUP C001
DFHCA5159 I PROGRAM PROG15 DEFINED IN GROUP C001
DFHCA5140 I TOTAL PROGRAM DEFINITIONS CREATED: 10
DFHCA5101 I MIGRATE COMMAND EXECUTED SUCCESSFULLY.
DFHCA5123 I PRIMARY CSD CLOSED; FILENAME: DFHCSD

```



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WAVV2005-76

## Automatic Installation

- VTAM terminals and/or programs
- Create "models" using RDO or DFHCSDUP
  - Stored in CSD
- Program controlled
  - IBM or user programs
- Table entries dynamically created from models during CICS operation
  - Created only when needed



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## Automatic Installation...

- Terminal Autoinstall
  - No need to pre-define each terminal to CICS
  - Input from
    - VTAM terminal definition
      - MDLTAB table (VTMMDL.B from IUI)
    - CICS Autoinstall Model Definitions
      - TERMINAL AUTOINSTMODEL
      - TYPETERM
    - Autoinstall Program



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### Automatic Installation...

#### ■ Terminal Autoinstall...

- Initialization parameters
  - AIEXIT exit program name
  - AILDELAY time delay before deletion following session termination
  - AIQMAX maximum number of concurrent installs
  - AIRDELAY time delay before deletion following emergency restart



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### Automatic Installation...

#### ■ Terminal Autoinstall...

- Autoinstall Program
  - Input
    - VTAM NETNAME, VTAM LOGON data
    - List of autoinstall models
  - Output
    - CICS TERMID
    - Autoinstall model to use
    - Associated CICS printer TERMIDs



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### Automatic Installation...

#### ■ Terminal Autoinstall...

- Autoinstall Program...
  - DFHZATDX and DFHZATDY (CICS-supplied)
    - Last four nonblank characters of VTAM NETNAME used for CICS TERMID
    - Documented in *CICS TS Customization Guide*
  - IESZATDX (VSE-supplied)
    - TERMID based on VSE/ESA naming conventions created by IUI terminal definition dialogs (Annn)
    - Uses VTAM model terminal support
    - Model name defined in IUI generated VTAM definitions
    - Documented in *VSE/ESA Networking Support*



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WAVV/2005-81

### Automatic Installation...

- Program Autoinstall
  - Eliminates need to pre-define each application program to CICS
    - CICS passes program name to autoinstall program
    - Autoinstall program returns action to be taken
    - CICS dynamically creates PPT entry
  - CICS-supplied program DFHPGADX
    - Most installations can probably used unchanged
    - Modify or write your own



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### Automatic Installation...

- Program Autoinstall...
  - Autoinstall Program
    - Controlled by initialization parameters
      - PGAEXIT=DFHPGADX|prog\_name
      - PGAIPGM=ACTIVE|INACTIVE
      - PGAICTLG=MODIFY|NONE|ALL
    - Program input is name of program and object type
      - program, mapset, partitionset
    - Program output
      - Model name to be used
      - Specific definitions for program
      - Return code (install or not)



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### Automatic Installation...

- Program Autoinstall...
  - Parameters that can be set
    - Autoinstall model name
    - Programming language
    - CEDF - yes or no
    - Data location - below or any
    - Execution key - CICS or user
    - Load attribute - reload, resident, transient, reusable
    - Use SVA copy - yes or no
    - Execution set - DPL subset or full
    - Remote attributes - system, program, transaction
    - Return code - install or do not install program



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## Automatic Installation...

### Default Program Autoinstall Model

```

OBJECT CHARACTERISTICS          CICS RELEASE = 0410
CEDA View PROGRAM( DFHPGAPG )
PROGRAM      : DFHPGAPG
Group       : DFHPGAPG
Description  : DEFAULT PROGRAM FOR PROGRAM AUTOINSTALL
Language    : CObol | Assembler | C | Pl1
RELoad      : No           No | Yes
RESident     : No           No | Yes
USAge       : Normal       Normal | Transient
USEsvacopy   : No           No | Yes
Status      : Enabled      Enabled | Disabled
RSI         : 00           0-24 | Public
CodF        : Yes         Yes | No
DAtalocation : Below       Below | Any
EXECKey     : User        User | Cics
REMOTE ATTRIBUTES
REMOTESystem :
REMOTENAME   :
Transid     :
EXECUTIONset : Fullapi     Fullapi | Dplsubset

```



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WAVV/2005-05

## System Programming

- New support in CICS TS
- EXEC CICS CREATE and DISCARD commands in user programs
  - CREATE most resources
  - DISCARD some resources
- Definitions in running system only
  - Do not affect definitions on CSD
  - Lost on COLD start
- Whenever you want



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WAVV/2005-06

## Summary

- Resource Definition in the CSD
  - Facilitates definition and activation of PCT, PPT, TCT, and FCT resources in running CICS systems
  - Required for PCT, PPT, and TCT VTAM definitions
- Autoinstall for terminals and programs
  - Easier system definition
  - Possible reduced VS consumption



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WAVV/2005-07