



IBM Software Group

# CICS Tools to assist with CICS Migration

*Are you ready to migrate to a new Version of CICS with CICS Tools?*

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 business on demand software

# Preface

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  - ▶ DB2
  - ▶ DFSMS/MVS
  - ▶ IBM
  - ▶ MQSeries
  - ▶ MVS/ESA
  - ▶ OS/390
  - ▶ RMF, Resource Measurement Facility
  - ▶ S/390, z/OS
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# Portfolio Overview

## Problem Determination Tools

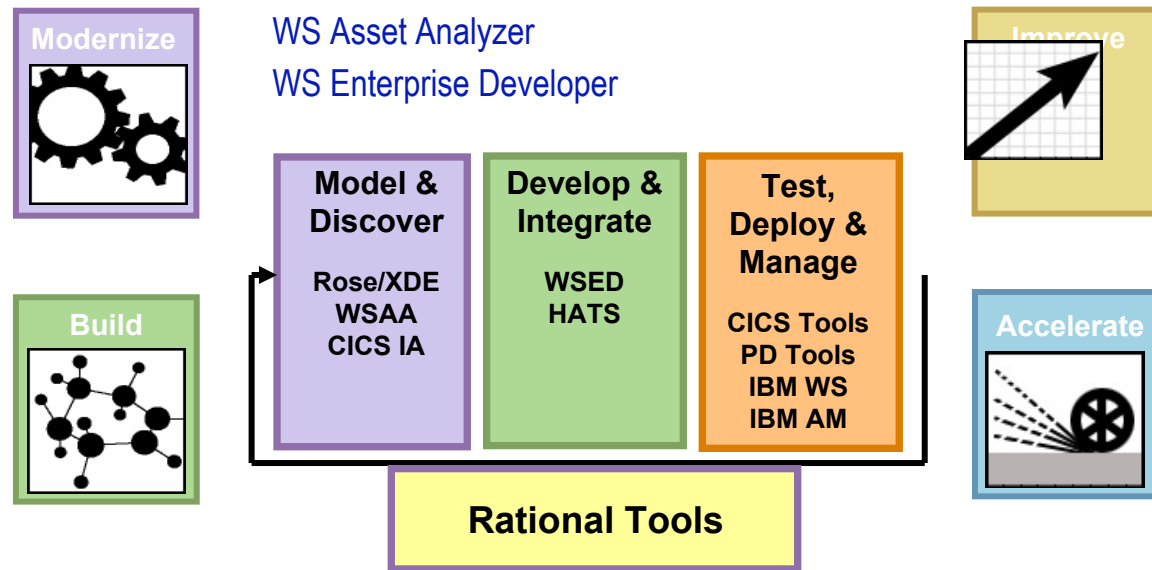
- File Manager
- File Export
- Fault Analyzer
- Debug Tool Utilities
- TicToc
- IBM Application Monitor
- IBM Workload Simulator
- Rational Functional Tester Extension

## CICS Tools

- CICS Interdependency Analyzer
- CICS Performance Analyzer
- CICS Business Event Publisher
- CICS VSAM Transparency
- CICS Batch Application Control
- IBM Session Manager
- CICS VSAM Recovery
- CICS VSAM Copy
- CICS OTTO
- CICS Configuration Manager

## WAS/z Tools

- WS Application Monitor
- WS Workload Simulator
- WS Asset Analyzer
- WS Enterprise Developer



## Host Integration Tools

- Personal Communications
- Host Publisher
- Host On Demand
- Host Access Transformation Server

## Runtimes

- WebSphere Application Server
- CICS, IMS, DB2
- Enterprise COBOL/PL/I
- Host Access Transformation Server



## CICS TS Releases - Recap

- **CICS TS V3**

- ▶ **GA** – **March 25<sup>th</sup>, 2005**

- **CICS TS V2**

- ▶ Version 2.3 **\*\* Supported \*\***

- ▶ Version 2.2 **\*\* End of Marketing – Until March 31<sup>th</sup>, 2005 \*\* !**

- ▶ Version 2.1 **\*\* Unsupported\*\* !!**

- **CICS TS V1**

- ▶ Version 1.3 **\*\* Supported – Until April 30<sup>th</sup>, 2006 \*\* !**

- ▶ Version 1.2 **\*\* Unsupported\*\* !!**

- ▶ Version 1.1 **\*\* Unsupported\*\* !!**

- **CICS MVS/ESA V4**

- ▶ Known as Version 4.1 **\*\* Unsupported\*\* !!**



## CICS Tools that assist with CICS TS V2V Migration

**Reduce down time**

**Use CICS resources  
more efficiently**

**Control software cost**

**Improve end-user  
productivity**

### **CICS Tools**

#### **CICS Interdependency Analyzer**

- Understand your active application inventory for efficient maintenance and upgrades



# What is CICS Interdependency Analyzer ?

**CICS IA is a productivity tool, which automates discovery of resource interdependencies within CICS applications. This gives customers a complete picture of how their CICS systems really work (e.g. which program uses which resources) Excellent tool for staff who have taken on a new application without any real documentation as to 'what is what'.**

## **Why CICS customers might not have CICS application information easily available:**

- Many CICS systems and applications evolved over many years (as many as 30!)
- Many changes to the applications went undocumented
- Some documentation is missing
- Source code is missing
- Runtime implementation might be different from what is documented
- The customer has been through a merger/acquisition
- The customer is in the outsourcing business

## **What does CICS IA do:**

- For applications that exploit CICS Transaction Server, as well as CICS calls to DB2, WebSphere MQ and IMS, it provides facilities for
  - ▶ Gathering information on resource relationships online. E.g.:
    - what programs are used by a transaction
    - what Files get read or updated by a transaction
  - ▶ Running queries against collected data
- How does it work?
  - ▶ The data is collected by CICS region and offloaded into a DB2 data base
  - ▶ The data from multiple regions is available from a single point of control
  - ▶ A query interface is provided for analysis by resource type



## Why do you need CICS Interdependency Analyzer?

*Maintaining, extending and enhancing your CICS applications more efficiently*

### Does any of this apply to you?

- CICS systems and applications evolved over many years (as many as 30!)
- Many changes to the applications went undocumented
- Some documentation went missing
- Source code is missing
- Even if the source code and documentation are available, the runtime application behavior differs from the original design (e.g. changed by use of exits)
- You have been through a merger/acquisition, so the information about inherited CICS systems is not available, or, if some available, time spent on the discovery process is critical to avoid business disruption
- You are providing outsourcing services, and need a complete picture of CICS resource relationships in your customer systems
- You are implementing workload balancing and need to identify affinities

### CICS IA helps to:

- Use CICS resources more efficiently
- Balance application workload for continuous availability
- Improve the speed and reduce cost of application maintenance
- Reduce time of problem resolution
- Improve CICS systems and application design
- Minimize the impact of routine application maintenance for the end user



## How does CICS IA fit in the V-V discussion?

- **Growing CICS usage, need to balance work across regions:**
  - ▶ CICS IA helps quickly identify resource relationships which need to be changed to enable transactions run anywhere
  - ▶ CICS IA helps quickly clone regions
- **Application change (e.g. web enablement)**
- **V-V migration assistance**
  - ▶ Improve speed of migration – move through Test, Q&A and into production faster
    - CICS IA for improved quality of testing by enabling comparison of regions contents
  - ▶ Make applications threadsafe
    - CICS IA provides information needed to understand which applications conform to threadsafe standards
- **CICSplex SM enablement**
  - CICS IA identifies affinities





# How do customers use CICS IA

- **Large retail company**
  - ▶ Complex business applications handling POS terminals, high number of regions
  - ▶ DB2 skills
  - ▶ Need to allow any transaction to run in any CICS region to improve availability
    - all of the transactions must be examined to eliminate restrictions or affinities that may exist today
  - ▶ Time pressure
  - ▶ Solution – CICS IA
    - Automates collection of the data they need
    - Loads data in a DB2 database for ease of processing
    - Helps create CSD definitions when applications are moved to a different region
    - Post-change ‘health check’
    - Also, help speed problem determination
      - E.g. Easily determining the logical flow of programs within a transaction
- **Large bank**
  - ▶ Need to consolidate data centres following mergers/acquisitions
  - ▶ Hundreds of CICS regions, transactions not following naming conventions
  - ▶ Solution – CICS IA
    - Used to define applications to clarify the picture of transaction and resource flow
- **Large outsourcing company**
  - ▶ Incorporate new workloads of their customers into their data centers
  - ▶ These workloads are often not documented well and need ‘cleaning up’ following acquisitions/mergers and other changes
  - ▶ CICS IA is used to understand the workloads and identify potentially dead code

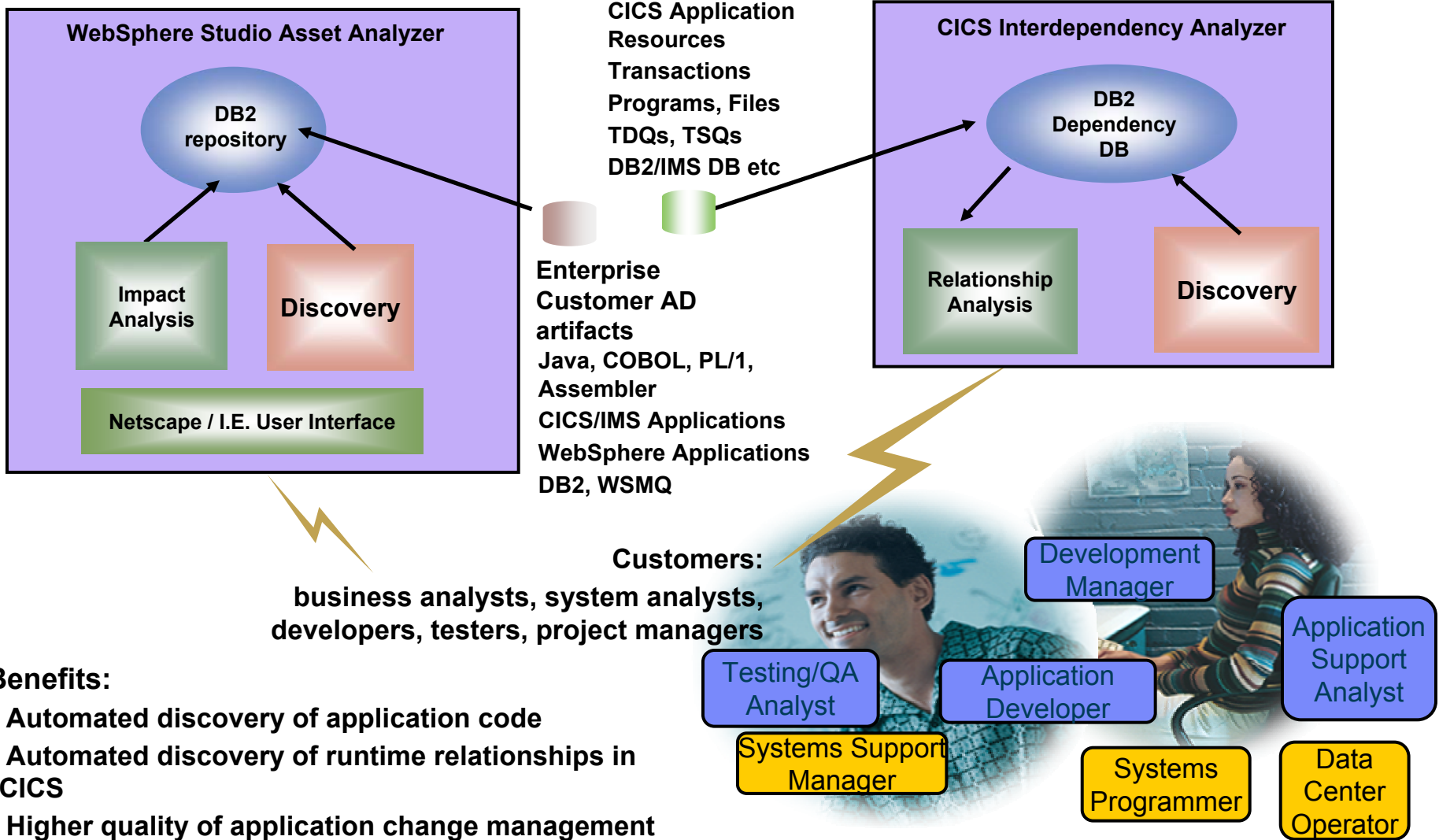


## New release: CICS Interdependency Analyzer for z/OS V1.3

- CICS IA V1.3 GA 24 September 2004
  - ▶ Both affinity and interdependency data in DB2 tables - a single point of control for reporting on, managing and housekeeping of the collected resource relationship data
    - Affinity data captured by the Transaction Affinities utility (part of CICS TS) can be loaded into DB2 tables for analysis
  - ▶ Online query interface for affinities and interdependencies
    - A powerful query facility not previously available for viewing affinities.
  - ▶ Collector enhancements to improve data capture
    - Length of resource names increased to 200 bytes, to allow for long ENQ/DEQ names
    - TCB data collected to assist in assessing threadsafe aspects of CICS-DB2 programs
    - Main, auxiliary, and Coupling Facility temporary storage queues are differentiated
    - Additional support for SYSID – rolled into CICS IA 1.3
      - Gives more accurate depiction of applications where remote SYSID is not specified in the program itself
  - ▶ Sample SQL queries to enable resource comparisons on DB2 data
    - comparison of applications across regions
    - comparison of all interdependencies across regions
  - ▶ Sample SQL queries to allow housekeeping functions on the DB2 data
  - ▶ Significant Scanner enhancements
    - Now reports on both, affinities and interdependencies
    - Provides an option to load Scanner data in a DB2 table
  - ▶ New procedures, including sample data, for the installation process



# Responding to change - *Understanding Applications Speeds Time to Market*



**Benefits:**

- Automated discovery of application code
- Automated discovery of runtime relationships in CICS
- Higher quality of application change management



## CICS IA Overview - CINT Main Menu

```
CIU000  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
                                     Main Administration Menu          12:16:18PM

Select one of the following.  Then press Enter.

1  Operations Menu.
2  Configure Region Options.
3  Configure Global Options.

CICS Sysid:  TLS3  CICS Applid:  IYCLZC03  TermID:  TC13
CIU2104W Invalid key pressed
F1=Help      F2=          F3=Exit      F4=          F5=          F6=
F7=          F8=          F9=          F10=         F11=         F12=Exit
```



## CICS IA Overview - CINQ Main Query Menu

```
CIU400  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
                                     Query Menu                               12:46:24PM

Select one of the following.  Then press Enter.

  1  Inquire on CICS Resources.
  2  Inquire on DB2 Resources.
  3  Inquire on MQ Resources.
  4  Inquire on IMS Resources.

CICS Sysid:  TLS3  CICS Applid:  IYCLZC03  TermID:  TC13
CIU7000I 5655-G76 (C) Copyright IBM Corp. 2001,2003
F1=Help    F2=          F3=Exit    F4=          F5=          F6=
F7=        F8=          F9=        F10=         F11=         F12=Exit
```



## CICS IA Overview - CINQ CICS Query Menu

```
CIU500  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
                CICS Query Menu                                     12:48:24PM

Select the resource type to query:

1. Transactions
2. Programs
3. TSQs
4. TDQs
5. Maps
6. Files
7. Applications
8. Regions

OR display all resources in application      detailed N (Y/N)

Enter the application's 3 character code or
? for a list of applications available.
WARNING : Option 7 may take a long time.

CICS Sysid:  TLS3  CICS Applid:  IYCLZC03  TermID:  TC13

F1=Help      F2=          F3=End      F4=Exit     F5=          F6=
F7=          F8=          F9=          F10=        F11=         F12=End
```



## CICS IA Overview - CINQ CICS Query

```
CIU510   CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0   2003/09/10
          CICS Query   TRANSACTIONS                               12:49:18PM
```

Select the option that best suits your query by entering the resource details in the field provided for each option. Use % as a wildcard character to specify a generic name. Note: Only one option can be chosen.

1. Start transaction.... (eg. TRN1 or TRN%)
2. Used by tran.....
3. Use program.....
4. Used by program.....
5. Use TDQ..... Detailed TDQ output? N
6. Use TSQ..... Detailed TSQ output? N
7. Use map.....
8. Use file (ddname).... Detailed file output? N
9. In region.....
10. DTP to transaction...
11. In application..... (enter ? for a list of application codes)

```
CICS Sysid: TLS3   CICS Applid: IYCLZC03   TermID: TC13
```

```
F1=Help   F2=           F3=End       F4=Exit     F5=           F6=
F7=       F8=           F9=         F10=        F11=          F12=End
```



## CICS IA Overview - CINQ CICS Query

```
CIU560  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
For your CICS Query                                           12:52:20PM
WHICH TRANS  USE TS QUEUE %                                Page  1 of  5

  HOME  TRAN  USES
  SYSID          TSQ
  CORF  EQAC  EQMT+TA+
           VA40  +TE+UMAP
           +TE+VA44
           VA43  +TE+VA44
           VA90  CAMT+TE+
           CAMTCORS
           EQIA+TA+
           VTRC  EZPSTRAT
           V220  EQIA+TA+
           V800  +TE+EXTL
           +TE+HELP
           +TE+HLPS
           +TE+HMAP

CICS Sysid:  TLS3  CICS Applid:  IYCLZC03  TermID:  TC13

F1=          F2=          F3=End      F4=Exit     F5=          F6=
F7= Page Up  F8= Page Down F9=          F10=        F11=        F12=End
```





## CICS IA Overview - CINQ Application Query

```
CIU580  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
For your CICS Query                                           12:54:56PM
WHICH RESOURCES ARE IN CallCoordinator/CICS                    Page 1 of 33
```

In Regn	Tran	Program	Resource Type	Resource Name
CORF	VA40	CAMA400C	MAP	CAM4001
	VA40	CAMA400C	PROGRAM	CAMA430C
	VA40	CAMA400C	PROGRAM	CAMA800C
	VA40	CAMA400C	PROGRAM	EZPSCCIL
	VA40	CAMA430C	FILE	CAMAAGTV
	VA40	CAMA430C	MAP	CAM4301
	VA40	CAMA430C	PROGRAM	CAM4301
	VA40	CAMA430C	TRANSID	VA43
	VA40	CAMA430C	TS	+TE+UMAP
	VA40	CAMA430C	TS	+TE+VA44
	VA40	CAMA800C	MAP	CAM8001
	VA40	CAMA800C	PROGRAM	EZPSCCIL
	VA40	CAMA800C	TRANSID	V800

```
CICS Sysid:  TLS3  CICS Applid:  IYCLZC03  TermID:  TC13
```

```
F1=          F2=          F3=End      F4=Exit    F5=          F6=
F7= Page Up  F8= Page Down F9=          F10=       F11=       F12=End
```



## CICS IA Overview - DB2 Query

```
CIU620  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
                Query DB2 usage                                     12:56:53PM
```

Select the option that best suits your query by entering the resource details in the field provided for each option. Use % as a wildcard character to select a generic name. Note: Only one option can be chosen.

1. Used by tran.....
2. Used by program.....
3. Used by plan.....
4. In region.....
5. In DB2ID.....

OR display all resources in application

Enter the application's 3 character code or  
? for a list of applications available.

WARNING : Option 4 and 5 may take a long time.

```
CICS Sysid:  TLS3  CICS Applid:  IYCLZC03  TermID:  TC13
```

```
F1=Help      F2=          F3=End       F4=Exit      F5=          F6=
F7=          F8=          F9=          F10=         F11=         F12=Exit
```



## CICS IA Overview - DB2 Query

```

CIU660  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
For your DB2 Query                                           01:12:08PM
WHICH DB CALLS ARE USED BY TRAN %                          Page 1 of 1

```

HOME	TRAN	PROGRAM	DB2ID	PLAN	SECTION	STATEMENT
SYSID					NUMBER	NUMBER
TLS3	CIN0	CIUA522C	DE21	CICCSIA	00001	00554
			DE21	CICCSIA	00001	00568
			DE21	CICCSIA	00001	00587
			DE21	CICCSIA	00002	00614
			DE21	CICCSIA	00002	00623
			DE21	CICCSIA	00002	00647
			DE21	CICCSIA	00002	00690
			DE21	CICCSIA	00003	01110
		CIUA550C	DE21	CICCSIA	00001	00373
			DE21	CICCSIA	00001	00385
			DE21	CICCSIA	00001	00413

CICS Sysid: TLS3 CICS Applid: IYCLZC03 TermID: TC13

CIU7011I No more details to display

F1=Help F2= F3=End F4=Exit F5= F6=  
F7= Page Up F8= Page Down F9= F10= F11= F12=End



## CICS IA Overview - MQ Query

```
CIU710  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
          MQ Query  TRANSACTIONS                                     12:59:34PM
```

Select the option that best suits your query by entering the resource details in the field provided for each option. Use % as a wildcard character to specify a generic name.

1. Use Queue .....

```
CICS Sysid:  TLS3  CICS Applid:  IYCLZC03  TermID:  TC13
```

```
F1=Help      F2=          F3=End       F4=Exit      F5=          F6=
F7=          F8=          F9=          F10=         F11=         F12= Exit
```



## CICS IA Overview - MQ Query

```
CIU720  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
          MQ Query  QUEUES                                     01:06:46PM
```

Select the option that best suits your query by entering the resource details in the field provided for each option. Use % as a wildcard character to select a generic name. Note: Only one option can be chosen.

1. Used by tran.....
2. Used by program.....
3. In region.....
4. In application..... (enter ? for a list of application codes)

```
CICS Sysid:  TLS3  CICS Applid:  IYCLZC03  TermID:  TC13
```

```
F1=Help      F2=          F3=End       F4=Exit      F5=          F6=
F7=          F8=          F9=          F10=         F11=         F12= Exit
```



## CICS IA Overview - MQ Query

```
CIU760  CICS Interdependency Analyzer for z/OS and OS/390 - V1R2M0  2003/09/10
For your MQ Query                                                    01:05:51PM
WHICH TRANS  USE MQ QUEUE %                                         Page  1 of  1
```

HOME	TRAN	USES
		QUEUE
TLS0	MAIL	CSQ4SAMP.MAILMGR.JAMESE
		CSQ4SAMP.MAILMGR.JAMESE.JAMESE

CICS Sysid: TLS3 CICS Applid: IYCLZC03 TermID: TC13

CIU7011I No more details to display

F1= F2= F3=End F4=Exit F5= F6=  
F7= Page Up F8= Page Down F9= F10= F11= F12=End



## Where to go for more information

- Web page on the CICS site
  - ▶ <http://www.ibm.com/software/http/cics/ianaly/>
  - ▶ White paper: CICS Interdependency Analyzer for z/OS V1.3 - Discovering resource relationships and affinities within your CICS environment, G224-9129
  - ▶ RedBook: CICS Interdependency Analyzer SG24-6458



## CICS Tools that assist with CICS TS V2V Migration

**Reduce down time**

**Use CICS resources  
more efficiently**

**Control software cost**

**Improve end-user  
productivity**

### **CICS Tools**

#### **CICS Interdependency Analyzer**

- Understand your active application inventory for efficient maintenance and upgrades

#### **CICS Performance Analyzer**

- Comprehensive off-line performance reporting and analysis for tuning and capacity planning





## Performance management process

### Tasks

- Real-time monitoring
  - ▶ Alerts
- Data analysis
  - ▶ Trend analysis to determine possible outcomes
- Capacity planning
  - ▶ Modelling to determine effect on the end-user response time
- Tuning
  - ▶ Deriving extra capacity

### CICS-specific tools

OMEGAMON XE  
for CICS

CICS  
Performance  
Analyzer

Other tools



# What is CICS Performance Analyzer for z/OS?

- Comprehensive off-line performance reporting for CICS
  - CICS Monitoring Facility (CMF) data (SMF 110)
    - Performance, Resource and Exception
  - DB2 Accounting records (SMF 101)
  - WebSphere MQ Accounting records (SMF 116)
  - MVS System Logger records (SMF 88)
  
- Flexible reporting
  - Historical Data base
    - Trending and capacity planning
  
- Product number - 5655-F38
  
- Releases Supported
  - CICS Transaction Server for z/OS, Version 3
  - CICS Transaction Server for z/OS, Version 2
  - CICS Transaction Server for OS/390, Version 1



# Performance and Availability Management Solutions for CICS

*Managing system performance and planning capacity for the future*

## **CICS Performance Analyzer**

- Provides ongoing system management and measurement reports on all aspects of CICS application performance
- Enables deep-dive CICS performance analysis and understanding of usage trends
- Aids capacity planning and tuning
- Helps quickly identify and eliminate trends leading to online performance problems

- **Plan capacity to reduce MIPS cost**

- **Proactively analyze performance trends to reduce down time and increase customer satisfaction**

- **Reduce cost of outages**

- **Reduce risk of missing the service level commitments**

- **Reduce time and cost of managing system performance and availability**



# CICS Performance Analyzer

- What does it do?
  - ▶ Enables off-line performance analysis of CICS, and CICS-related DB2, WebSphere MQ, and MVS SMF records, as well as IMS information
  - ▶ Provides flexible reporting and analysis capabilities with supplied reports or your own reports for day-to-day performance analysis
  - ▶ Historical data processing for trending and capacity planning
  
- Why do I need it?
  - ▶ Reduce cost of effort to analyze performance
  - ▶ Improves tuning and capacity planning analysis
  - ▶ Helps take proactive approach to CICS systems tuning
  - ▶ Helps plan capacity for optimal performance
  - ▶ Helps review application performance and identify potential to improve application design
  - ▶ Use with online monitors to quickly identify and correct causes of online problems
  
- Excellent all-in-one tool for System Programmers and Performance Staff routine reporting and tuning, managing and planning CICS workloads.



## CICS Performance Analyzer - Main ISPF Menu

```
File  Options  Help
V1R3M0          CICS Performance Analyzer 1.3 - Primary Option Menu
Option ==>>>

0  CICS PA Profile      Customize your CICS PA dialog profile
1  System Definitions   Specify CICS Systems, SMF files and Groups
2  Report Sets          Request and submit reports and extracts
3  Report Forms        Define Report Forms
4  Object Lists         Define Object Lists
5  Historical Database  Collect and process Historical Data
X  Exit                 Terminate CICS PA
```

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# Tailoring the Performance LIST Report Format

```

File Edit Confirm Upgrade Options Help
                                EDIT LIST Report Form - FCLIST          Row 1 to 20 of 209
Command ===> _____ Scroll ===> PAGE

Description . . . . List Report Form _____ Version (VRM): 620
Title . . . Transaction File Control Usage

Enter "/" to select action. Scroll Right for more data.

Field
Name      Type      Description
---      -
TRAN      _____ Transaction identifier
USERID    _____ User ID
d PROGRAM _____ Program name
d TASKNO  _____ Transaction identification number
STOP      TIMET     Task stop time
RESPONSE  _____ Transaction response time
DISPATCH TIME     Dispatch time
CPU       TIME     CPU time
d SUSPEND TIME     Suspend time
d DISPWAIT TIME     Redispatch wait time
FCWAIT   TIME     File I/O wait time
a FCAMCT  _____ File access-method requests
EOR      _____ ----- End of Report -----
EOX      _____ ----- End of Extract -----
mm FCADD  _____ File ADD requests
FCBROWSE _____ File Browse requests
FCDELETE _____ File DELETE requests
FCGET    _____ File GET requests
FCPUT    _____ File PUT requests
mm FCTOTAL _____ File Control requests

```



## CICS PA: Key Advantages

- **Part of IBM systems management strategy**
  - ▶ Complements IBM online monitors for a complete solution
    - Tivoli OMEGAMON XE for CICS on z/OS
  - ▶ Complements other IBM batch performance analysis tools (e.g. IMS PA)
  - ▶ Complements IBM enterprise wide historical trend analysis solution (Tivoli Decision Support for z/OS) with detailed CICS analysis for fast online problem resolution, CICS tuning and capacity planning
- **Functionality**
  - ▶ CICS PA is a functionally outstanding analysis tool designed for proactive and cost-effective ongoing performance analysis, capacity planning and tuning
- **Support and utilization of the latest technologies in CICS**
  - ▶ CICS PA fully exploits CICS TS 3.1 from GA and aim to exploit all the new CICS TS releases in a timely manner
- **Ease of use**
  - ▶ Short learning curve
  - ▶ CICS PA comes with over 130+ pre-supplied reports to help you get started quickly, and provides a comprehensive ISPF dialogue to manage and tailor reports
- **Education**
  - ▶ IBM provides detailed RedBooks and technical presentations so the education is inexpensive (RedBook download is free)
- **Service and Support**



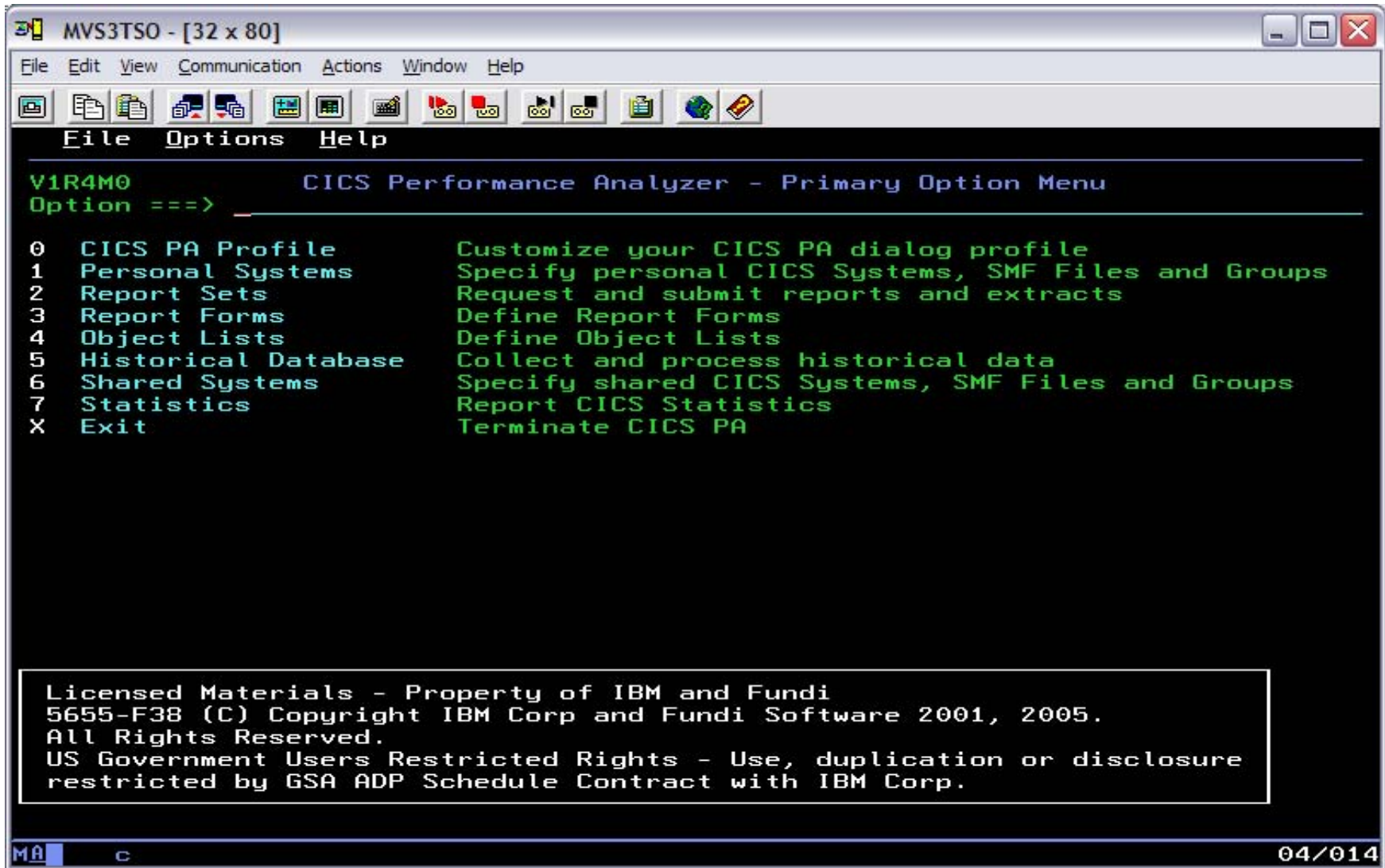


## Some Initial Questions .....

- Is your use of CICS growing? E.g. more applications using it, business volumes growing
- Are your service hours extending? Is 24 x 7 availability critical to your business? E.g. You are web-enabling your CICS applications
- Do you invest in multiple CICS performance analysis tools to meet your requirements? Are they sometimes difficult and costly to use?
- Functionality – Are you and your users dissatisfied with the functionality they currently have for performance management:
- Do you find it difficult to quickly respond to online performance issues by identifying usage trends which lead to poor performance?
- Are you planning to migrate to CICS TS V2.x or CICS TS V3.1 in the coming year? Are you looking for a tools to measure CICS TS performance?
- Do you find it difficult to plan capacity needs within budget using your current tools?
- Do you require a single point of access to all the CICS performance data, inc CICS –related DB2, WebSphere MQ, MVS Logger and IMS information?



# CICS PA - ISPF Primary Option Menu



The screenshot shows a terminal window titled "MVS3TSO - [32 x 80]" with a menu titled "CICS Performance Analyzer - Primary Option Menu". The menu is displayed in green text on a black background. The menu items are numbered 0 through 7, with an 'X' for 'Exit'. Each item has a brief description. At the bottom of the terminal, there is a copyright notice and a date "04/014".

```
MVS3TSO - [32 x 80]
File Edit View Communication Actions Window Help
File Options Help
V1R4M0          CICS Performance Analyzer - Primary Option Menu
Option ==>

0  CICS PA Profile          Customize your CICS PA dialog profile
1  Personal Systems        Specify personal CICS Systems, SMF Files and Groups
2  Report Sets             Request and submit reports and extracts
3  Report Forms            Define Report Forms
4  Object Lists            Define Object Lists
5  Historical Database      Collect and process historical data
6  Shared Systems          Specify shared CICS Systems, SMF Files and Groups
7  Statistics              Report CICS Statistics
X  Exit                    Terminate CICS PA

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MA  c  04/014
```

# Performance Summary Report

CICS Performance Analyzer														
Performance Summary														
SUMM0001 Printed at 12:46:48 7/23/2003 Data from 11:10:29 2/04/1999 to 08:10:06 2/16/1999														
Page 1														
		Avg	Max	Avg	Avg	Avg	Max	Avg	Avg	Avg	Avg	Avg		
Avg	Tran	#Tasks	Response	Response	Dispatch	User	CPU	Suspend	Suspend	DispWait	FC Wait	FCAMRq	IR Wait	SC24UHWM
			Time	Time	Time	Time	Time	Time	Time	Time	Time		Time	
	SC31UHWM													
	AADD	18	.0115	.0945	.0099	.0020	.0016	.0114	.0008	.0003		1	.0000	949
	0													
	ABRW	1033	.0789	36.6088	.0027	.0015	.0762	36.6061	.0000	.0000		6	.0007	1008
	0													
	ADDD	1	.0482	.0482	.0350	.0049	.0132	.0132	.0125	.0000		0	.0000	0
	0													
	AINQ	11	.0021	.0040	.0017	.0014	.0004	.0021	.0000	.0000		1	.0001	928
	0													
	AMNU	15	.0245	.1724	.0223	.0027	.0022	.0194	.0010	.0000		0	.0000	422
	177													
	AUPD	17	.0183	.0665	.0118	.0032	.0065	.0505	.0010	.0017		0	.0007	968
	0													
	B	2	.0028	.0031	.0027	.0015	.0001	.0001	.0000	.0000		0	.0000	0
	0													
	BING	1	.0024	.0024	.0023	.0016	.0001	.0001	.0000	.0000		0	.0000	0
	0													
	BINQ	1	.0027	.0027	.0027	.0015	.0001	.0001	.0000	.0000		0	.0000	0
	0													
	CALL	25	2.3633	8.2455	.0074	.0021	2.3559	8.2300	.0013	.0000		0	.0000	0
	1056													
	CATA	17	.0285	.0882	.0119	.0055	.0167	.0828	.0002	.0000		0	.0000	0
	0													
	CATD	6	.0372	.0590	.0159	.0056	.0213	.0306	.0024	.0000		0	.0000	0
	0													
	CATR	2	.0290	.0296	.0283	.0047	.0006	.0009	.0006	.0000		0	.0000	0
	0													
	CBAM	11	11.2041	51.3803	.0147	.0054	11.1894	51.3196	.0016	.0000		3	.0000	0
	1865													
	CBTR	2	.0179	.0334	.0176	.0029	.0003	.0006	.0003	.0000		0	.0000	0

# Transaction Resource Usage Reports - Usage List

V1R3M0														
CICS Performance Analyzer														
Transaction Resource Usage List														
RESU0001 Printed at 15:18:36 6/19/2003 Data from 14:49:42 6/19/2003												Page	7	
Tran	Userid	SC	TranType	Term	LUName	Request Type	Program	Fcty T/Name	Conn Name	NETName	APPLID	UOW R Task Seq T	Stop Time	Response Time
AUPD	CBAKER	TO	U	TC28	IYCWTC28	AP:	DFHÚAALL	T/TC28		GBIBMIYA.IYCWTC28	IYK2Z1V1	89 1 T	15:13:27.113	.0015
***** FC Calls ***** I/O Waits ***** AccMeth														
File					Get	Put	Browse	Add	Delete	Total	File	RLS	CFDT	Requests
FILEA				Elapse	.0001	.0000	.0000	.0000	.0000	.0001	.0000	.0000	.0000	
				Count	1	0	0	0	0	1	0	0	0	2
AUPD	CBAKER	TO	U	TC28	IYCWTC28	AP:	DFHÚAALL	T/TC28		GBIBMIYA.IYCWTC28	IYK2Z1V1	90 1 T	15:13:34.041	.2065
***** FC Calls ***** I/O Waits ***** AccMeth														
File					Get	Put	Browse	Add	Delete	Total	File	RLS	CFDT	Requests
FILEA				Elapse	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	
				Count	1	0	0	0	0	1	0	0	0	1
AUPD	CBAKER	TP	U	TC28	IYCWTC28	AP:	DFHÚAALL	T/TC28		GBIBMIYA.IYCWTC28	IYK2Z1V1	91 1 T	15:13:39.474	.0072
***** FC Calls ***** I/O Waits ***** AccMeth														
File					Get	Put	Browse	Add	Delete	Total	File	RLS	CFDT	Requests
FILEA				Elapse	.0001	.0047	.0000	.0000	.0000	.0048	.0032	.0000	.0000	
				Count	1	1	0	0	0	1	0	0	0	1



# Performance Wait Analysis Report

V1R3M0		CICS Performance Analyzer			
		Wait Analysis Report			
WAIT0001 Printed at 14:01:01 7/24/2003		Data from 19:26:39 7/14/2003 to 19:38:16 7/14/2003		Page 1	
-----					
Tran=CBM1					
Summary Data		----- Time -----		----- Count -----	
Ratio -----					
		Total Average		Total Average	
# Tasks				3962	
Response Time		39174.1585 9.8875			
Dispatch Time		4860.6282 1.2268		347472 87.7 12.4% of	
Response					
CPU Time		179.7728 0.0454		347472 87.7 3.7% of	
Dispatch					
Suspend Wait Time		34313.4642 8.6606		347472 87.7 87.6% of	
Response					
Dispatch Wait Time		26770.4022 6.7568		343510 86.7 78.0% of	
Suspend					
Resource Manager Interface (RMI) elapsed time		4302.4135 1.0859		191768 48.4 11.0% of	
Response					
Resource Manager Interface (RMI) suspend time		2641.0973 0.6666		19211 4.8 7.7% of	
Suspend					
Suspend Detail		----- Suspend Time -----			
Count -----					
		Total Average		%age Graph Total	
Average					
N/A Other Wait Time		21836.2138 5.5114		63.6%  ***** 332847	
84.0					
MAXOTDLY MAXOPENTCBS wait time		4094.5942 1.0335		11.9%  ** 639	
0.2					
LU62WTT LU6.2 wait time		3035.7758 0.7662		8.8%  * 5238	
1.3					
DSPDELAY First dispatch wait time		2398.0299 0.6053		7.0%  * 3962	
1.0					
MXTDELAY > First dispatch MXT wait time		374.7682 0.0946		1.1%   87	

## Resource Usage Reports - File Usage Summary

VIR3M0		CICS Performance Analyzer											
		File Usage Summary											
FILE0001		Printed at 16:55:16	7/15/2003	Data from 14:49:42	6/19/2003 to 15:15:57	6/19/2003	APPLID IYK2Z1V1	Page	3				
File	Tran	#Tasks	***** FC Calls *****					***** I/O Waits *****			AccMeth		
			Get	Put	Browse	Add	Delete	Total	File	RLS	CFDT	Requests	
FILEA	ABRW	4	Elapse Avg	.0000	.0000	.0000	.0000	.0000	.1077	.0048	.0000	.0000	
			Max	.0000	.0000	.0001	.0000	.0000	.4307	.0191	.0000	.0000	
		Count	Avg	0	0	4	0	0	5	0	0	0	6
			Max	0	0	5	0	0	6	2	0	0	7
	AUPD	3	Elapse Avg	.0001	.0016	.0000	.0000	.0000	.0016	.0011	.0000	.0000	
			Max	.0001	.0047	.0000	.0000	.0000	.0048	.0032	.0000	.0000	
		Count	Avg	1	0	0	0	0	1	0	0	0	2
			Max	1	1	0	0	0	2	1	0	0	4
	CECI	1	Elapse Avg	.0000	.0000	.0001	.0000	.0000	.0002	.0000	.0000	.0000	
			Max	.0000	.0000	.0001	.0000	.0000	.0002	.0000	.0000	.0000	
		Count	Avg	0	0	5	0	0	6	0	0	0	7
			Max	0	0	5	0	0	6	0	0	0	7
Tot1	8	Elapse Avg	.0000	.0006	.0000	.0000	.0000	.0545	.0028	.0000	.0000		
		Max	.0001	.0047	.0001	.0000	.0000	.4307	.0191	.0000	.0000		
	Count	Avg	0	0	3	0	0	4	0	0	0	5	
		Max	1	1	5	0	0	6	2	0	0	7	



## MVS Workload Activity Reports - Summary

```

V1R3M0
                                CICS Performance Analyzer
                                Workload Manager Activity Summary by Service Class

WKLD0001 Printed at 16:43:42  6/18/2003 Data from 14:18:57 11/05/2002 to 15:04:59 11/05/2002
Page      1920

Service
Class      APPLID      Phase      #Tasks      ----- Response Time -----
                Average      Std Dev      90% Peak      Maximum

CICSDFLT   SCSCPAA1   BTE         51          .0377         .1073         .1753         .5600
                SCSCPAA1   EXE        1533         .0316         .0781         .1316         1.1133
                SCSCPAA4   BTE         17          111.043       457.767       697.900       1887.44
                SCSCPAA4   EXE        8239         .0204         .0569         .0934         1.2754
                SCSCPJA7   EXE         810          .0035         .0043         .0090         .0297
                SCSCPLA1   BTE        8816         .3441         20.0989       26.1108       1887.18
                SCSCPLA2   BTE        6954         .4033         22.6318       29.4172       1887.33
                SCSCPTA1   BTE        6624         .0356         .0792         .1371         1.2963
                SCSCPTA2   BTE        4680         .0412         .0891         .1555         1.1289
CICSDFLT   *Total*    BTE       27142        .3005         19.8410       25.7367       1887.44
                *Total*    EXE       10582        .0207         .0587         .0960         1.2754
CICSWORK   SCSCPJA7   BTE         32          58.9871       333.661       486.741       1887.47
* Grand Total *   BTE       27174        .3696         22.8968       29.7233       1887.47
* Grand Total *   EXE       10582        .0207         .0587         .0960         1.2754

```

- by MVS WLM Service Class and Report Class
  - ▶ Applid, WLM Completion phase, Number of tasks, ...
  - ▶ Response time ...
    - Average, Std Deviation, Peak percentile, Maximum, ...



# Cross-System Work Report - Default ...

CICS Performance Analyzer																
Cross-System Work																
CROS0001 Printed at 12:09:28 1/24/2002 Data from 11:10:51 2/04/1999 to 08:10:28 2/16/1999																
													Page	3		
Tran	Userid	SC	TranType	Term	LUName	Request Type	Program	Fcty T/Name	Conn Name	NETName	UOW Seq	APPLID	R Task T	Stop Time	Response Time	A B
ABRW	BRENNER	TP	U	S23D	IGCS23D	AP: DFHúABRW	DFHúABRW	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	61	T 11:13:20.275	.0080	
CSMI	CBAKER	TO	UM	R11	IYK2Z1V1	FS:F--- DFHMIRS	DFHMIRS	T/R11	CJB1	GBIBMIYA.IGCS23D	1	IYK2Z1V3	57	T 11:13:20.274	.0044	
ABRW	BRENNER	TP	U	S23D	IGCS23D	AP: DFHúABRW	DFHúABRW	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	62	T 11:13:21.332	.0064	
CSMI	CBAKER	TO	UM	R11	IYK2Z1V1	FS:F--- DFHMIRS	DFHMIRS	T/R11	CJB1	GBIBMIYA.IGCS23D	1	IYK2Z1V3	58	T 11:13:21.331	.0039	
CEDA	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEDAP	DFHEDAP	T/S23D		GBIBMIYA.IGCS23D	3	IYK2Z1V1	72	T 11:16:28.284	1.1025	
CEDA	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEDAP	DFHEDAP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	72	C 11:16:27.181	3.0046	
CEDA	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEDAP	DFHEDAP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	72	C 11:16:24.177	2.2127	
CEDA	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEDAP	DFHEDAP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	72	C 11:16:21.964	46.5125	
CEDA	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEDAP	DFHEDAP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	72	C 11:15:35.451	.6794	
CEMT	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEMTP	DFHEMTP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	140	T 11:21:24.062	51.3442	
CEMT	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEMTP	DFHEMTP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	140	C 11:20:32.718	8.3481	
CEMT	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEMTP	DFHEMTP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	140	C 11:20:24.370	.0042	
CEMT	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEMTP	DFHEMTP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	174	T 11:21:28.662	1.1930	
CEMT	BRENNER	TO	U	S23D	IGCS23D	AP: DFHEMTP	DFHEMTP	T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	174	C 11:21:27.469	.0041	
RMST	BRENNER	TO	U	S23D	IGCS23D	TR:CJB3		T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	178	T 11:22:38.447	48.9210	
STAT	CBAKER	TO	U	R11	IYK2Z1V1	AP: DFH0STAT	DFH0STAT	S/S23D	CJB1	GBIBMIYA.IGCS23D	1	IYK2Z1V3	349	T 11:22:38.433	66.7720	
RMST	BRENNER	TO	U	S23D	IGCS23D	TR:CJB3		T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	178	C 11:21:49.526	10.0524	
RMST	BRENNER	TO	U	S23D	IGCS23D	TR:CJB3		T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	178	C 11:21:39.473	7.8027	
RMST	BRENNER	TO	U	S23D	IGCS23D	TR:CJB3		T/S23D		GBIBMIYA.IGCS23D	1	IYK2Z1V1	178	C 11:21:31.671	.0110	





# DB2 Reports - List

V1R2M0 CICS Performance Analyzer  
DB2 - List

DB2R0001 Printed at 10:14:46 2/13/2002 Data from 13:31:17 1/24/2002 to 13:32:08 1/24/2002 Page 1

Tran/Response	Userid/ Authid	Program/ Planname	APPLID	UOW R	Task Seq	T Term	LUName	Connect	Thread	ReqCnt	User CPU Time	Start Time	Stop Time	Time
B	WROS RAIMAN	CRWWPPOS	STM4IRA1	34695 1 T <ADQ	STM4IRT1	.0000	.0000	18	.3112	13:31:23.053	13:31:34.349			
	CHIG STM4IRA1	CRWWPPOS	STM4IRA1	34695	Thread Identification	ID=ENTRWROS0037 NETName=USIBMSY.LE000081 UOWID=16372A6C7E14 Begin Time: 13:31:23.056 1/24/02 End Time: 13:31:35.378								
					Class1: Thread Time	Elapsed= 12.3218 CPU= .310480								
					Class2: In-DB2 Time	Elapsed= 11.2359 CPU= .309914								
					Class3: Suspend Time	Total = 6.5988 I/O= 2.3726 Lock/Latch= 4.2262 Other=								
					Buffer Manager Summary	GtPgRq= 8120 SyPgUp= 8								
					Locking Summary	Suspnd= 11 DeadLk= 0 TmeOut= 0 MxPgLk=								
					SQL DML Query/Update	Sel= 2 Ins= 0 Upd= 0 Del= 0								
					SQL DML 'Other'	Des= 0 Pre= 0 Ope= 3 Fet= 13 Clo=								
	WRNO RAIMAN	CRWWPPNO	STM4IRA1	34869 1 T <ACY	STM4IRT1	.0000	.0000	67	.0114	13:31:38.853	13:31:45.875			
	CHIG STM4IRA1	CRWWPPNO	STM4IRA1	34869	Thread Identification	ID=ENTRWRO0051 NETName=USIBMSY.LE000081 UOWID=1637397E8927 Begin Time: 13:31:38.854 1/24/02 End Time: 13:31:45.808								

CMF performance data

Associated DB2 Accounting data

Class1: Thread Time	Elapsed= 6.9534	CPU= .010208
Class2: In-DB2 Time	Elapsed= 6.8909	CPU= .008283
Class3: Suspend Time	Total = 6.3783	I/O= .0000 Lock/Latch= 6.3783 Other=

## References

*CICS Performance Analyzer for z/OS User's Guide, SC34-6307*

*CICS Performance Analyzer for z/OS Report Reference, SC34-6308*

*CICS Performance Analyzer Release 3, SG24-6063*

*Tivoli Decision Support Accounting Workstation for z/OS User Guide, SH19-4516*



## CICS Tools that assist with CICS TS V2V Migration

**Reduce down time**

**Use CICS resources  
more efficiently**

**Control software cost**

**Improve end-user  
productivity**

### **CICS Tools**

#### **CICS Interdependency Analyzer**

- Understand your active application inventory for efficient maintenance and upgrades

#### **CICS Performance Analyzer**

- Comprehensive off-line performance reporting and analysis for tuning and capacity planning

#### **CICS Configuration Manager**

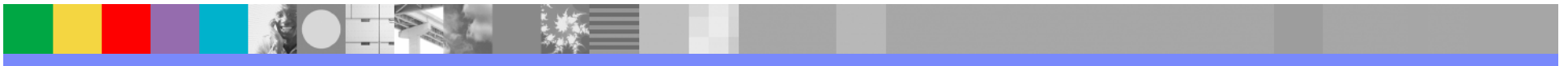
(Announced – 2/22/05 : GA – April 2005)

- Manage, replicate, and deploy CICS system definitions

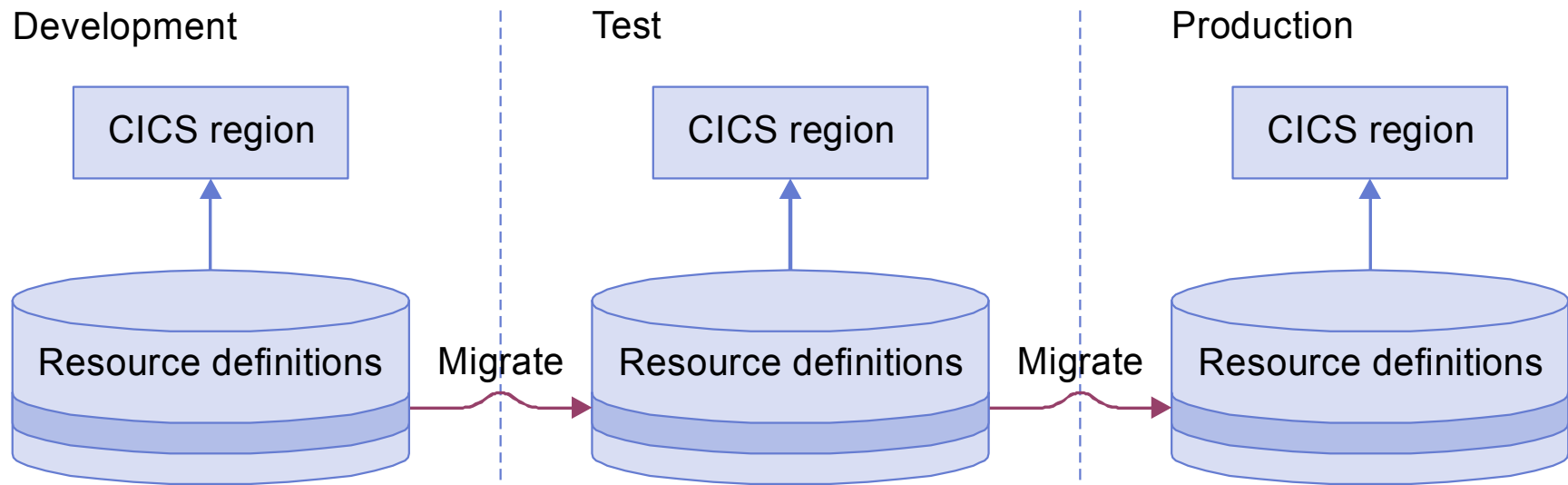


## What's the problem?

- Configuring CICS systems consists of
  - ▶ Server configuration
  - ▶ Resource provisioning
  - ▶ Application deployment
  
- All three require creation/modification of CICS resource definitions
  
- Definitions must be migrated from development, to test, to production environments
  
- Topology of CICS regions can be complex; different topologies in each environment can require changes to the definitions
  
- Definitions can be stored in CSD files or CICSplex SM data repositories



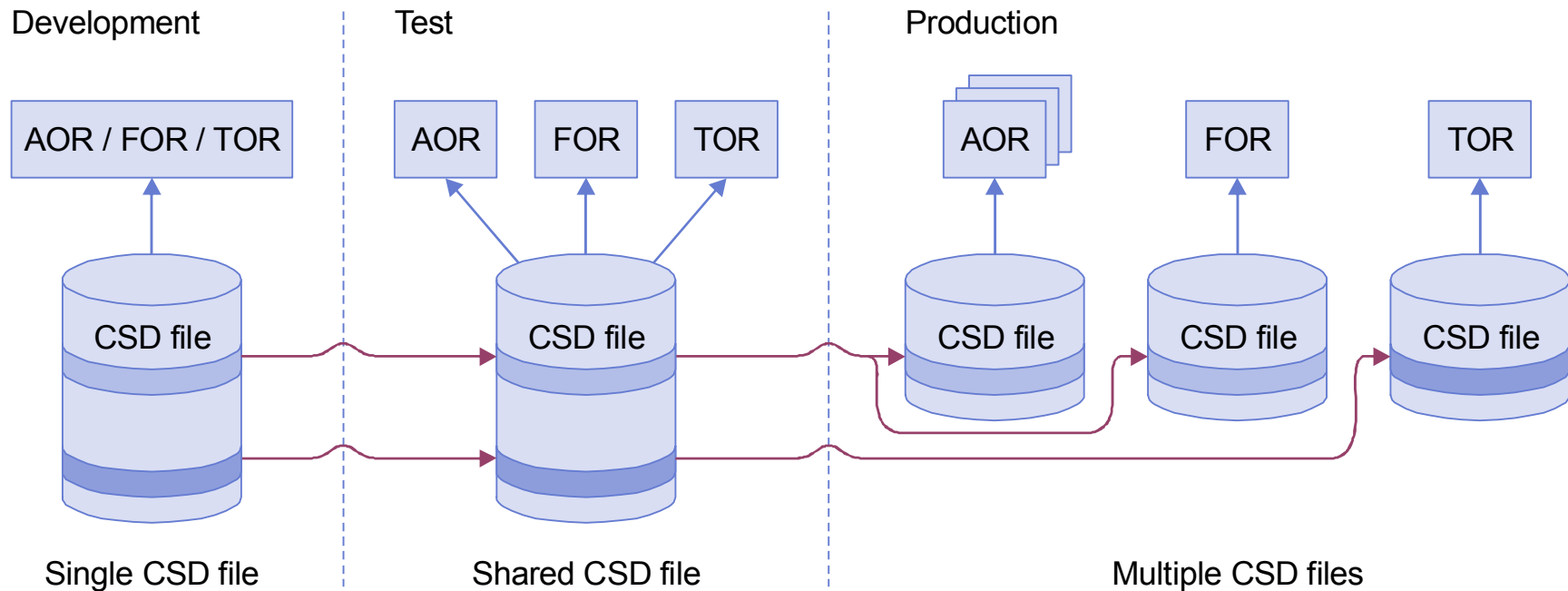
## Simplistic example: 3 CICS regions



- Three sets of definitions to manage
- Two migrations per change:  
Development → Test, then Test → Production
- Real-life environments are much more complex...



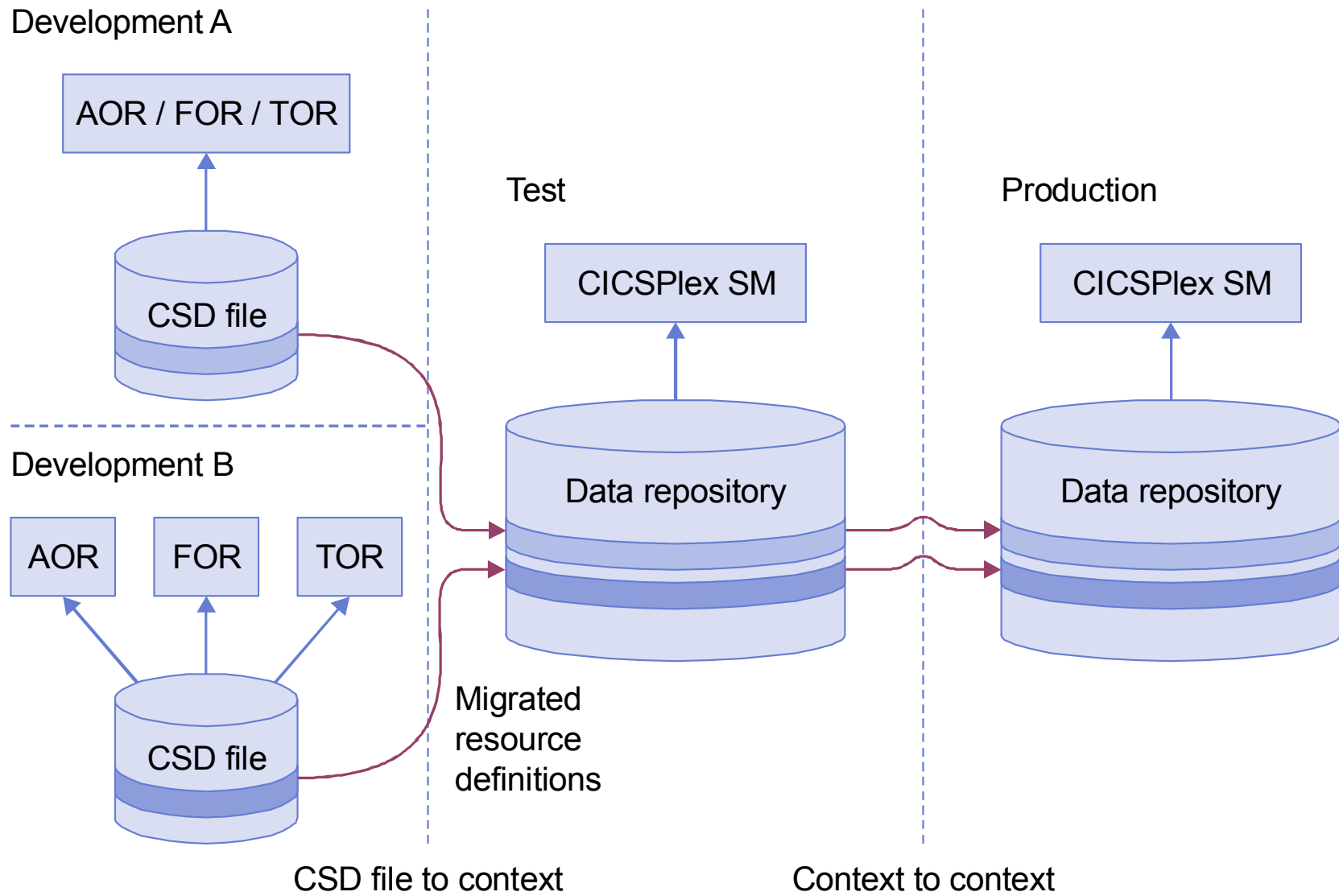
## Migrating between shared and unshared CSD files



- How do you systematically manage this migration?
- If you also use CICSplex SM for some environments, it gets more complex...



# Migrating between CSD and context



## Other issues

- What if definitions are intentionally different in each environment? Do you edit them separately?
  - ▶ e.g. different high-level qualifiers: `DEVT .`, `TEST .`, `PROD .`
- Need separate tools for CSD files and CICSplex SM?
- How do you back out a change?
- How do you record changes, for auditing?
- How do you avoid promoting unexpected changes made by another user?
- How do you compare resource definitions?
- Who approves the migration?
- How do you know which definitions are still needed?
- Have you got duplicates, missing definitions?





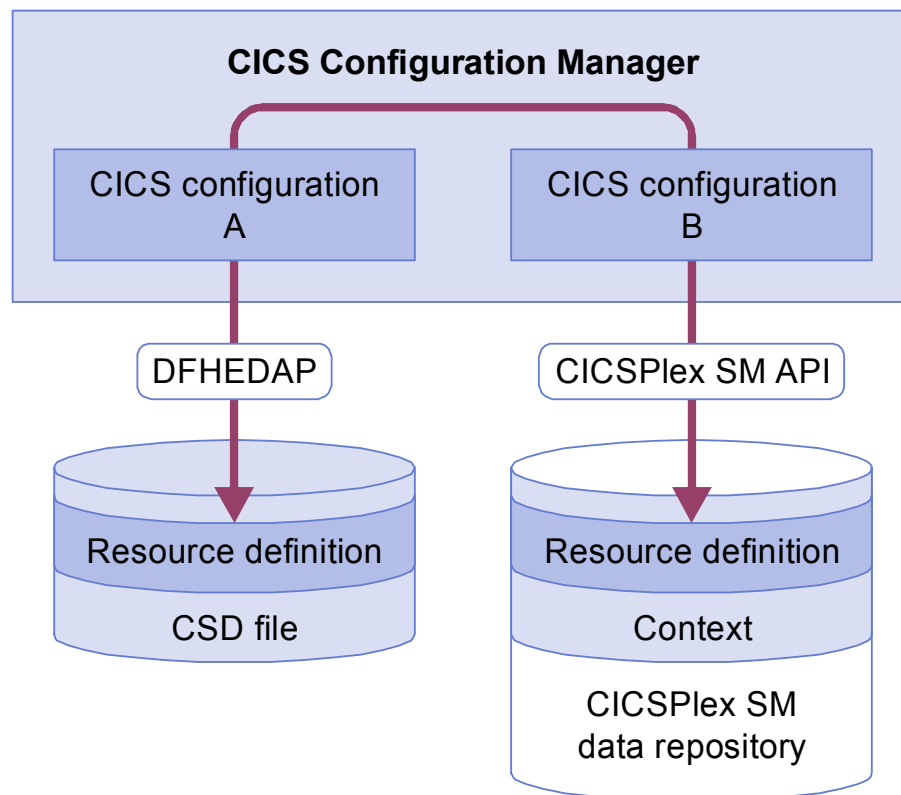
## Requirements

- **Managers** need to control, approve, and audit how definitions are migrated
- **Technical staff** need an easy-to-use and flexible tool to update and migrate definitions, undo migrations, investigate what they currently have, and report to management

*CICS Configuration Manager* provides all this and more...



# Abstracting the backend database



- CICS RDO uses CSDs
- CICSplex SM uses DREPs and contexts
- CICS CM abstracts these as a **CICS Configuration**
- For each CSD file or CICSplex SM context, you define a **CICS configuration**
- Thereafter, you refer only to the **CICS configuration**;
  - ▶ CICS Configuration Manager **transparently** handles the differences



## Familiarity of display

- All CICS CM displays follow the CEDA style of display



# CEDA



mvs2cvmp \_ □ ×

File Edit View Communication Actions Window Help



define prog

OVERTYPE TO MODIFY

CICS RELEASE = 0640

CEDA DEFine PROGram( )

PROGram ==> \_

Group ==> \_

DEscription ==>

Language ==> CObol | Assembler | Le370 | C | Pli

RELoad ==> No No | Yes

RESident ==> No No | Yes

USAge ==> Normal Normal | Transient

USElpacopy ==> No No | Yes

Status ==> Enabled Enabled | Disabled

RS1 : 00 0-24 | Public

CEdf ==> Yes Yes | No

DAtalocation ==> Below Below | Any

EXECKey ==> User User | Cics

COncurrency ==> Quasirent Quasirent | Threadsafe

Api ==> Cicsapi Cicsapi | Openapi

REMOTE ATTRIBUTES

+ DYnamic ==> No No | Yes

MESSAGES: 2 SEVERE

SYSID=ZCGF APPLID=IYCWZCGF

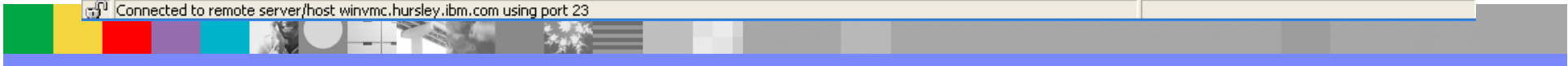
PF 1 HELP 2 COM 3 END

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

MA b

04/022

Connected to remote server/host winvmc.hursley.ibm.com using port 23



# CICS Configuration Manager



winvme

File Edit View Communication Actions Window Help

File Menu Fundi Help

CICS Definitions  
DEFINE Confirmation

=> PAGE

Enter details and press Enter to define new resource

CICS resource type . . . \_\_\_\_\_ +

New definition details

Name . . . . . \_\_\_\_\_ +  
Group . . . . . PJ\* +  
CICS Configuration . . CICS1 +

Model definition details (optional)

Name . . . . . \_\_\_\_\_ +  
Group . . . . . PJ\* +  
CICS Configuration . . CICS1 +

F1=Help F3=Exit F4=Prompt F6=Resize F7=Backward  
F8=Forward F12=Cancel

F1=Help F3=Exit F4=Prompt F5=Rlocate F6=Zoom F7=Backward  
F8=Forward F12=Cancel

ed ----  
\*\*\*\*\*

MR c 07/031

Connected to remote server/host winmvs2e.hursley.ibm.com using lu/pool IYCYTC60 and port 23



winme

File Edit View Communication Actions Window Help

File Menu Settings Fundi Help

Edit Program

Command ==>

```

Program . . . : FRED
Group . . . . : PJTEST
Location . . . : CICSTOOL.DFHCS
Change Date . :
Description . .

```

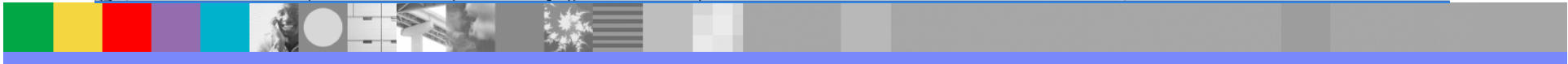
More: +

	Description
Language . . .	Program language
Reload . . . .	Reload new copy on each execution
Resident . . .	In-storage residence after first use
Usage . . . . .	Program storage release
UseLPACopy . .	Use program from the link pack area
Status . . . . .	Enabled for use status
CEDF . . . . .	Display CEDF diagnostic screens
DataLocation	In-memory storage address data location
ExecKey . . . .	Program execution key
Concurrency . .	Concurrent execution resource protection

F1=Help F3=Exit F4=Prompt F5=Rlocate F6=Zoom F7=Backward  
 F8=Forward F10=PrevPage F11=NextPage F12=Cancel

MA c 04/015

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## Familiar task interactions

- Same type of interactions supported



# CEDA



mvs2cvmp



File Edit View Communication Actions Window Help



```
di list(*)
```

```
ENTER COMMANDS
```

```
LIST
```

```
C310EAP0
```

```
C310EATL
```

```
C310EJUP
```

```
C310EPLU
```

```
C310ESAT
```

```
C310E330
```

```
C310E410
```

```
C310E510
```

```
C310E520
```

```
C310E530
```

```
C310E610
```

```
C310E620
```

```
C310E630
```

```
C310E640
```

```
C310M212
```

```
DFH&IVPL
```

```
+ DFHLIST
```

```
SYSID=ZCGF APPLID=IYCWZCGF
```

```
RESULTS: 1 TO 17 OF 48
```

```
TIME: 21.20.25 DATE: 05.059
```

```
PF 1 HELP
```

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

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mvs2cvmp

File Edit View Communication Actions Window Help

ENTER COMMANDS

NAME	TYPE	LIST	DATE	TIME
DFHDCTG	GROUP	DFHLIST	05.014	13.28.29
DFHBMS	GROUP	DFHLIST	05.014	13.28.29
DFHCONS	GROUP	DFHLIST	05.014	13.28.29
DFHDBCTL	GROUP	DFHLIST	05.014	13.28.29
DFHDB2	GROUP	DFHLIST	05.014	13.28.29
DFHEDF	GROUP	DFHLIST	05.014	13.28.29
DFHEDP	GROUP	DFHLIST	05.014	13.28.29
DFHFE	GROUP	DFHLIST	05.014	13.28.29
DFHHARDC	GROUP	DFHLIST	05.014	13.28.29
DFHINQUI	GROUP	DFHLIST	05.014	13.28.29
DFHINTER	GROUP	DFHLIST	05.014	13.28.29
DFHISC	GROUP	DFHLIST	05.014	13.28.29
DFHMISC	GROUP	DFHLIST	05.014	13.28.29
DFHMSWIT	GROUP	DFHLIST	05.014	13.28.29
DFHOPCLS	GROUP	DFHLIST	05.014	13.28.29
DFHOPER	GROUP	DFHLIST	05.014	13.28.30
+ DFHPGAIP	GROUP	DFHLIST	05.014	13.28.30

RESULTS: 1 TO 17 OF 51

PF 1 HELP 3 END 4 TOP 5 BOT 6 CRSR 7 SBH 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

MA b

04/035

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```

mvs2cvmp
File Edit View Communication Actions Window Help
di group(dfhspi)
ENTER COMMANDS
NAME          TYPE          GROUP          DATE    TIME
DFHAMP        PROGRAM      DFHSPI          05.014  13.28.34
DFHDMP        PROGRAM      DFHSPI          05.014  13.28.34
DFHEDAD       PROGRAM      DFHSPI          05.014  13.28.34
DFHEDAP       PROGRAM      DFHSPI          05.014  13.28.34
DFHEITSP      PROGRAM      DFHSPI          05.014  13.28.34
DFHPUP        PROGRAM      DFHSPI          05.014  13.28.34
DFHTBS        PROGRAM      DFHSPI          05.014  13.28.34
DFHTOR        PROGRAM      DFHSPI          05.014  13.28.34
DFHZATA       PROGRAM      DFHSPI          05.014  13.28.34
DFHZATD       PROGRAM      DFHSPI          05.014  13.28.34
DFHZATDX      PROGRAM      DFHSPI          05.014  13.28.34
DFHZATMD      PROGRAM      DFHSPI          05.014  13.28.34
DFHZATMF      PROGRAM      DFHSPI          05.014  13.28.34
DFHZATR       PROGRAM      DFHSPI          05.014  13.28.34
DFHZATS       PROGRAM      DFHSPI          05.014  13.28.34
DFHZCQ        PROGRAM      DFHSPI          05.014  13.28.34
+ DFHZCTDX    PROGRAM      DFHSPI          05.014  13.28.34

                                SYSID=ZCGF  APPLID=IYCWZCGF
RESULTS: 1 TO 17 OF 31          TIME:  21.23.21  DATE: 05.059
PF 1 HELP      3 END 4 TOP 5 BOT 6 CRSR 7 SBH 8 SFH 9 MSG 10 SB 11 SF 12 CNCL

MA  b                                                    04/035
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```





winvme

File Edit View Communication Actions Window Help

File Menu Fundi Help

Resources CICS Configurations Row 1 to 2 of 2  
Command ==> \_\_\_\_\_ Scroll ==> PAGE

Name	Description
CICS1	
CPSM1	

\*\*\*\*\* Bottom of data \*\*\*\*\*

F1=Help F3=Exit F4=Prompt F5=Rlocate F6=Zoom F7=Backward  
F8=Forward F10=PrevPage F11=NextPage F12=Cancel

start | Infoprin... | AT&T N... | 3 PCS... | 2 Inte... | Microso... | 74% | 21:24

winvme

File Edit View Communication Actions Window Help

File Menu Fundi Help

Lists CICS1 CICS Resources Row 1 to 10 of 10  
 Command ==> \_\_\_\_\_ Scroll ==> PAGE

Filter \* \_\_\_\_\_

List	Prompt	---	Changed	----
_____ CICSDS01			2003/08/06	09:09
_____ C022LIST			2001/12/19	08:48
_____ C122LIST			2002/08/21	08:24
_____ C122VT12			2005/01/19	15:09
_____ C222LIST			2002/08/21	08:46
_____ C322LIST			2002/08/21	08:46
_____ DFH&IVPL			2004/02/13	10:44
_____ DFHLIST			2004/02/13	10:44
_____ ONN2LIST			2002/08/21	09:07
_____ WS01LIST			2002/08/28	05:56

\*\*\*\*\* Bottom of data \*\*\*\*\*

F1=Help      F3=Exit      F4=Prompt      F5=Rlocate      F6=Zoom      F7=Backward  
 F8=Forward      F12=Cancel

MA c 04/015

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winvme

File Edit View Communication Actions Window Help

File Menu Fundi Help

Resources CICS1 CICS Resources Row 1 to 14 of 31  
 Command ==> \_\_\_\_\_ Scroll ==> PAGE

Filter \* \_\_\_\_\_ \* \_\_\_\_\_ + DFHSPI

Name	Type	Group	Prompt	--- Changed ---
CATA	TRANSACTION	DFHSPI		2004/02/13 10:44
CATD	TRANSACTION	DFHSPI		2004/02/13 10:44
CATR	TRANSACTION	DFHSPI		2004/02/13 10:44
CDTS	TRANSACTION	DFHSPI		2004/02/13 10:44
CEDA	TRANSACTION	DFHSPI		2004/02/13 10:44
CEDB	TRANSACTION	DFHSPI		2004/02/13 10:44
CEDC	TRANSACTION	DFHSPI		2004/02/13 10:44
CFTS	TRANSACTION	DFHSPI		2004/02/13 10:44
CITS	TRANSACTION	DFHSPI		2004/02/13 10:44
CMTS	TRANSACTION	DFHSPI		2004/02/13 10:44
CRMD	TRANSACTION	DFHSPI		2004/02/13 10:44
CRMF	TRANSACTION	DFHSPI		2004/02/13 10:44
DFHAMP	PROGRAM	DFHSPI		2004/02/13 10:44
DFHDMP	PROGRAM	DFHSPI		2004/02/13 10:44

F1=Help F3=Exit F4=Prompt F5=Rlocate F6=Zoom F7=Backward  
 F8=Forward F12=Cancel

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## CICS Configuration Manager - End User ISPF Interface

- TSO ISPF interface
- Edit definitions while CICS regions are inactive
- Edit definitions in CSD files or data repositories transparently
- Field-sensitive help for definition attributes
- View and compare histories of definitions
- Filter definitions using a combination of list, group, type, and name



## Primary menu

```
File Menu Help
-----
CICS Configuration Manager - Primary Menu
Option ==> █
0 Settings          Set user parameters and options
1 Administration   Administer CICS Configuration Manager definitions
2 CICS Resources   Maintain CICS resource definitions
3 Change Packages  Process change packages to migrate CICS resource
4 Reporting        Report CICS resource definitions
X Exit            Exit CICS Configuration Manager
More: +
```

4B █ @:00.1 04/014



## Select CICS configuration

```
File Menu Help
-----
CICS Configuration List                               Row 1 to 6 of 6
Command ==> _____ Scroll ==> PAGE

/  Name      Description
--- CEBCONF   Testing
--- DEVTCONF
--- DTRTEST1
--- DTRTEST2
--> MVJHCONF   MVJH Testing
--> TESTCONF   T22M CSD Configuration
***** Bottom of data *****

4B  @:00.1 12/003
```





# Select resource definition

File Menu Help

CICS Definition Selection List Row 1 to 16 of 1,834  
 Command ==> \_\_\_\_\_ Scroll ==> PAGE

Filter \* \* + \*

Filter by name, type, group

Name	Type	ResGroup	Prompt	---	Changed	----
abcf	TERMINAL	TESTGRP2			2004/09/28	09:45
AABB	TDQUEUE	TESTGRP2			2004/09/30	09:44
CEECBLDY	PROGRAM	CEE			2004/08/09	09:43
CEECCTCS	PROGRAM	CEE			2004/08/09	09:43
CEECCTCS	PROGRAM	CEE			2004/08/09	09:43
CEECCTCS	PROGRAM	CEE			2004/08/09	09:43
CEECCTCS	PROGRAM	CEE			2004/08/09	09:43
CEECCTCS	PROGRAM	CEE			2004/08/09	09:43
CEECCTCS	PROGRAM	CEE			2004/08/09	09:43
CEEDAYS	PROGRAM	CEE			2004/08/09	09:43
CEEDCOD	PROGRAM	CEE			2004/08/09	09:43
CEEDSHP	PROGRAM	CEE			2004/08/09	09:43
CEEDYWK	PROGRAM	CEE			2004/08/09	09:43
CEEEV003	PROGRAM	CEE			2004/08/09	09:43
CEEEV005	PROGRAM	CEE			2004/08/09	09:43
CEEEV010	PROGRAM	CEE			2004/08/09	09:43

Enter / to show pop-up of allowed actions

To sort, select a column heading

4B @:00.1 11/003







# Edit attributes

```

File  Menu  Settings  Help
-----
EDIT                                     Program
Command ===> _____

Program . . . : CEECBLDY
ResGroup . . . : CEE
Location . . . : CCVPLEXA
Change Date . : 2004/08/09 09:43:49
Description . . : _____
More: +

Press F1 to view a detailed description of this attribute
-----
Language . . . : ASSEMBLER + Program language
Reload . . . . : NO + Reload new copy on each execution
Resident . . . : NO + In-storage residence after first use
Usage . . . . . : NORMAL + Program storage release
UseLPACopy . . : NO + Use program from the link pack area
Status . . . . . : ENABLED + Enabled for use status
CEDF . . . . . : YES + Display CEDF diagnostic screens
DataLocation . : BELOW + In-memory storage address data location
ExecKey . . . . : USER + Program execution key
Concurrency . . : QUASIRENT + Concurrent execution resource protection

Remote Attributes
-----
4B | @:00.1 | 13/022
    
```

Prompt fields display pop-ups lists of valid field values



## Context-sensitive help

The screenshot shows a help window titled "Program Language - Help" with a "More: +" button. The window lists several language options and their descriptions:

- LANGUAGE( COBOL ASSEMBLER LE370 C N\_A PLI )**  
This attribute specifies the program language.
- ASSEMBLER** This is an assembler language program.
- C** This is a C/370(TM) program not compiled by a Language Environment-conforming compiler.
- COBOL** This is an OS/VS COBOL or a VS COBOL II program.
- LE370** The program exploits multi-language support, or has been compiled by a Language Environment-conforming compiler.
- N\_A** Not applicable.
- PLI** This is a PL/I program.

In most cases, you do not need to specify the LANGUAGE attribute, because the CICS program manager deduces the correct language and

At the bottom of the window, there is a status bar with "4B" on the left, "00.1" in the center, and "02/007" on the right.



# Reporting

- View a list of definitions from one or more CICS configurations, filtered by name, type, and group, with a checksum column: identical checksums means identical definitions
- Find definitions that match typical search criteria, such as “transactions using program *program-name*”
- Scan for definitions whose attributes match your custom criteria
- Compare attribute values of two definitions side-by-side, with differences highlighted



## Report menu

“Resource reports” simply offer different ways of generating a list of definitions. On each list, you can enter similar line actions: edit, compare, package, etc.

File Menu Help

Reporting Menu

option ==>

### CICS Resource Reports

- 1 Compare List resources with quick-compare indicators
- 2 Compare multiple List resources across multiple CICS configurations
- 3 Find Find resources using relationship criteria
- 4 Scan Scan resources using field-sensitive filters

### Historical Reports

- 5 Change Packages List the processing events for a change package
- 6 CICS changes List CICS resource changes using search criteria

## Comparing (across configurations)

```
Menu  Settings  Help
-----
CICS/CM 1.1                CICS Configuration List                Row 1 of 4
Option ==>
System=PROD
Enter '/' to select multiple CICS Configuration for reporting

  CICS      Description
  / CICSDD  Development CICS Plex context
  / CICSIPAOR Production CICS Application region
  █ CICSPTOR Production CICS Terminal Owing region
  - CICSST  Test CICS region
  - **End**

Select two or more CICS
configurations to see a combined,
filtered list of their resources

4B  @:00.1  11/004
```



# Comparing (across configurations)

```

Menu  Settings  Help                                     Enter option
-----
CICS/CM 1.1                                     CICS Definition Selection                               Row 1 of 4
Command ==> _____                               Scroll ==> CSR
System=PROD,,CICS=CICSPAOR,CICSD
Filter * _____ TRANSACTION + * _____

Action  Name      Type      Group   Prompt   CRC-F   Updated   CICS
-----  ---      ---      ---     ---     ---     ---     ---
c _____ FIN1     TRANSACTION  FINANCE  _____ 0E62F1 2003/06/16 CICSD
          _____ FIN1     TRANSACTION  FINANCE  _____ 0E62F1 2004/02/16 CICSPAOR
c _____ PAY3     TRANSACTION  PAYROLL  _____ 1E12F3 2003/12/20 CICSD
          _____ PAY3     TRANSACTION  PAYROLL  _____ 1E12F3 2003/09/01 CICSPAOR
          **End**
    
```

Select two definitions to compare side-by-side

Identical checksums indicate identical definitions

4B

@:00.1

11/003



## Comparing (across configurations)

```

Menu  Settings  Help
-----
CICS/CM 1.1                               Transaction Compare
Command ==> █
System=PROD,,CICS=CICSPAOR,CICSD,TRANSACTION=FIN1

  TRANsaction . . : FIN1                               PAY3
  Group . . . . . : FINANCE                             PAYROLL
  Location . . . . : CICSDEVT                             CICSDEVT
  Change Date . . : 2003/06/16 07:33:09                 2003/12/20 14:54:51
                                                    More:      +
=> Description . . GROUP(FINANCE) FIN1 DESC... GROUP(PAYROLL) PAY3 DESC...
=> PROGRAM . . . . DFHMIRS                               FIN00003
  TWasize . . . . . 00000                               00000
  PROFILE . . . . . DFHCICSA                             DFHCICSA
  PARTitionset . .
  STATUS . . . . . ENABLED                               ENABLED
  PRIMedsize . . . 00000                               00000
  TASKDATAloc . . . BELOW                              BELOW
  TASKDATAkey . . . USER                               USER
  STORageclear . . . NO                                NO
  RUNaway . . . . . SYSTEM                              SYSTEM
  SHUTDOWN . . . . . DISABLED                           DISABLED
  ISolate . . . . . YES                                 YES
  █
  █:00.1
  04/015

```



## Gaining more control over movement of definitions

- So far we can manipulate definitions and report on them at will
- We can also gain more control on the movement of definitions through
  - ▶ **Packages**
    - What to move
  - ▶ **Migration schemes**
    - Source and target configurations
  - ▶ **Transformation rules**
    - How attributes are to be transformed
  - ▶ **Approval processing**
    - Approval processing prior to migrate
  - ▶ **Migrate/Backout commands**
    - Cause the changes to occur
- Migration schemes, transformation rules and approval profiles are defined by the system programmer
- Packages are defined by the developer and processed by the system programmer





## *Optional: Approve before migrating*

- Define **approval profiles** that reflect the sensitivity of different change packages (such as minor, major, or emergency)
- For each migration scheme, an approval profile specifies the number and roles of the required approvers (such as manager, user, operator, or DBA)
- If you use approval processing, you must assign an approval profile to each change package; in addition to being ready, each change package must be approved before migration



## Approval profile selection

```
File  Menu  Settings  Help
-----
CICS/CM 1.1                               Approval Profile Selection           Row 1 of 4
Command ==>> _____ Scroll ==>> CSR_____

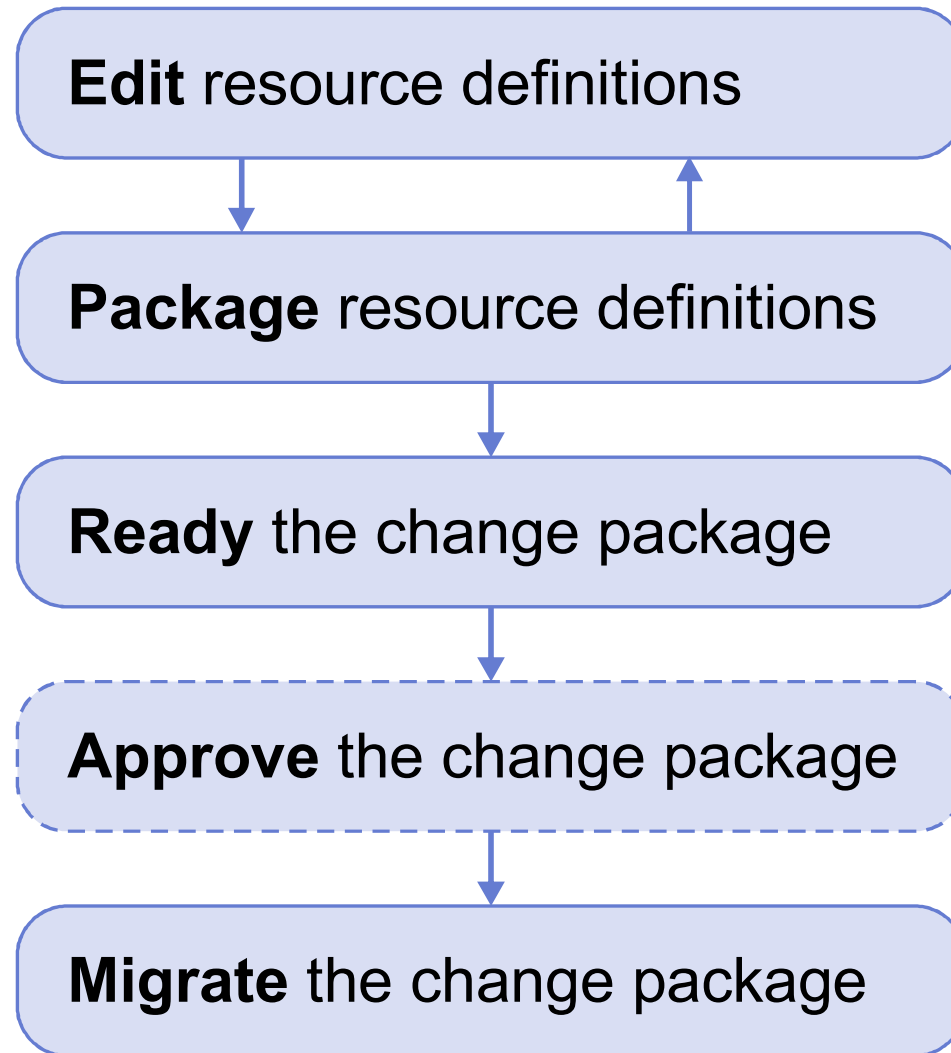
Opt Name      Prompt      Created      Changed      ID
-  EMERGENCY  2002/12/10  2002/12/15 17:17:18  EDWARD
-  MINOR      2002/12/09  2002/12/30 13:05:33  JOHN
-  NORMAL     2002/12/15  2002/12/16 11:34:21  JANE
-  RELEASE    2002/12/10  2002/12/14 15:22:45  DAVID
**End**

4B  @:00.1  09/004
```





## Change package process overview

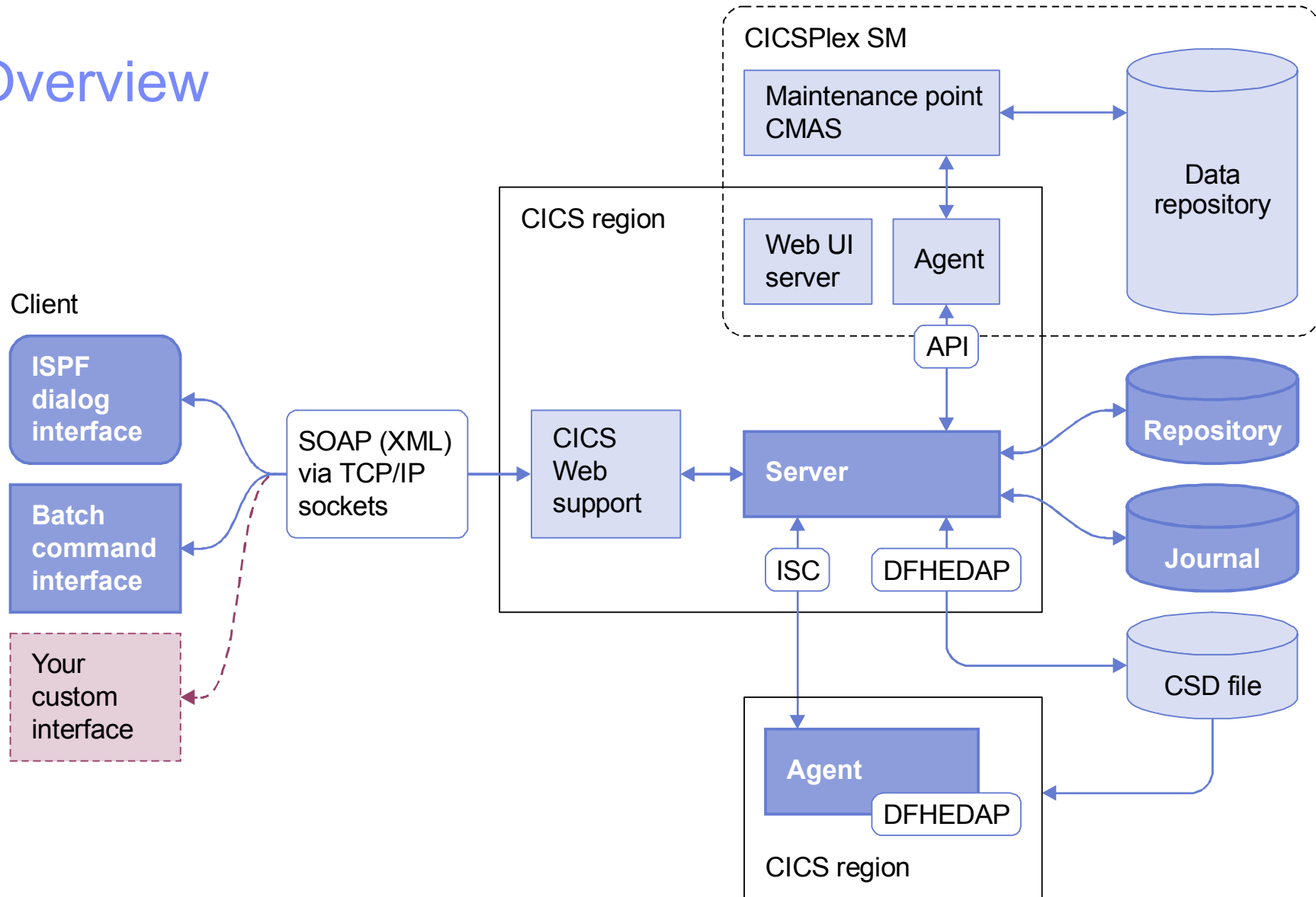


## Components

- **Client** ISPF dialog or batch command interface: communicates with server over TCP/IP, using XML SOAP API
- **Server** CICS transactions that perform the actions requested by the client
- **Repository** VSAM KSDS of current data
- **Journal** VSAM KSDS of historical data
- **Agent** CICS transaction that performs CICS CEDA INSTALL on behalf of server



# Overview



# Security

- Uses MVS system authorization facility (SAF) callable services
- You can use any SAF-enabled external security manager (ESM), such as RACF or Computer Associates Access Control Facility (CA-ACF), to administer security



## CICS Configuration Manager Benefits

- Can be used by both, System Programmers and Application Developers
- Provides single point of remote control over definitions in multiple systems
- Resource definitions can be managed across multiple CICS regions, including regions that are controlled by CICSplex SM
- Linkage to customer's source code management system
- Powerful copy capabilities with transformation rules
- Supports CICS TS 3.1





## How does CICS CM fit in the V-V discussion?

- **Application change**
  - Automation of CICS resource definition changes associated with application upgrades
- **V-V migration assistance**
  - Improve speed of migration – move through Test, Q&A and into production faster
    - CICS Configuration Manager for improved productivity and control
- **CICSplex SM enablement**
  - CICS CM manages CPSM definitions



## CICS Tools that assist with CICS TS V2V Migration

**Reduce down time**

**Use CICS resources  
more efficiently**

**Control software cost**

**Improve end-user  
productivity**

### **CICS Tools**

#### **CICS Interdependency Analyzer**

- Understand your active application inventory for efficient maintenance and upgrades

#### **CICS Performance Analyzer**

- Comprehensive off-line performance reporting and analysis for tuning and capacity planning

#### **CICS Configuration Manager**

(Announced – 2/22/05 : GA – April 2005)

- Manage, replicate, and deploy CICS system definitions

#### **Debug Tool Utilities and Advanced Functions for z/OS**

- Debugger for compiled applications. Debug Tool supports applications written in C/C++, COBOL, and PL/I. Also includes old COBOL conversion program



## DB2 V8 and CICS TS (2.2, 2.3 & 3.1) Requires LE COBOL

- Bring non-LE COBOL compatible for DB2 V8 and current releases of CICS (TS V2.2, 2.3 and now 3.1)

- ▶ Helps convert old COBOL:
  - OS/VS COBOL
  - VS COBOLII (or later) w/ CMPR2
- ▶ To ANSI 1985 conforming COBOL, Language Environment LE
- ▶ Once in 1985 standard you can change compilers at any time
- ▶ Migrate gradually

- Steps to Solution:

- ▶ Utilize **Debug Tool Utilities Advanced Function (DTUAF)** to convert existing old COBOL to 1985 standard COBOL, LE.
- ▶ Before putting back into production utilize DTUAF code coverage to confirm code was properly tested.



## CICS Tools that assist with CICS TS V2V Migration

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