

Managing CICS Performance and Configuration using CICS PA and CM

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<http://www.fundi.com/virtualcics/meetings.htm>

Agenda

What are CICS Tools?

CICS Performance Analyzer

Who can use it?

What is CICS PA

Sample Report Forms

Customizable reports

Wait Analysis report

Statistics Alert reporting

What's new

CICS Configuration Manager

Why is it useful?

CICS resource definition lifecycle management

Backout and audit compliance

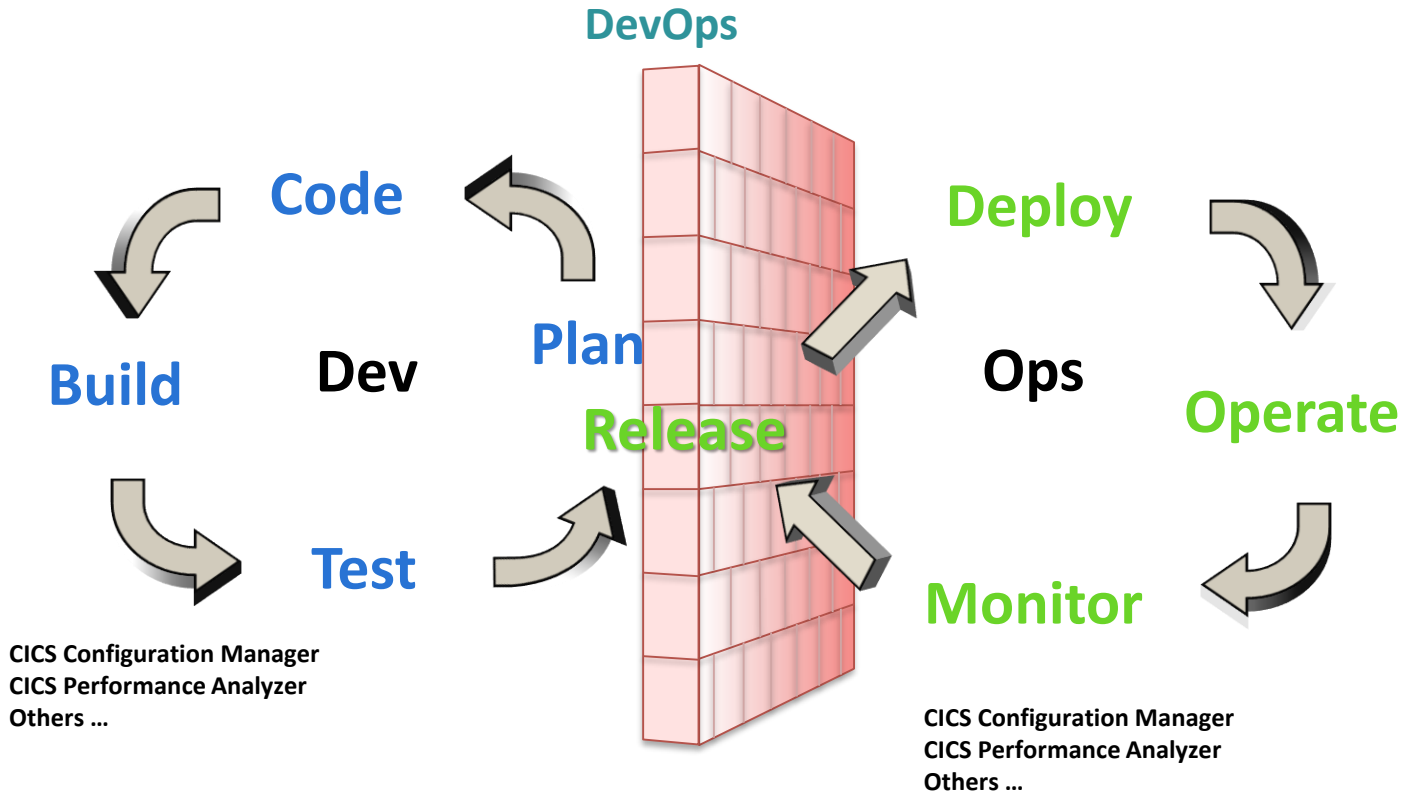
Deployment analysis

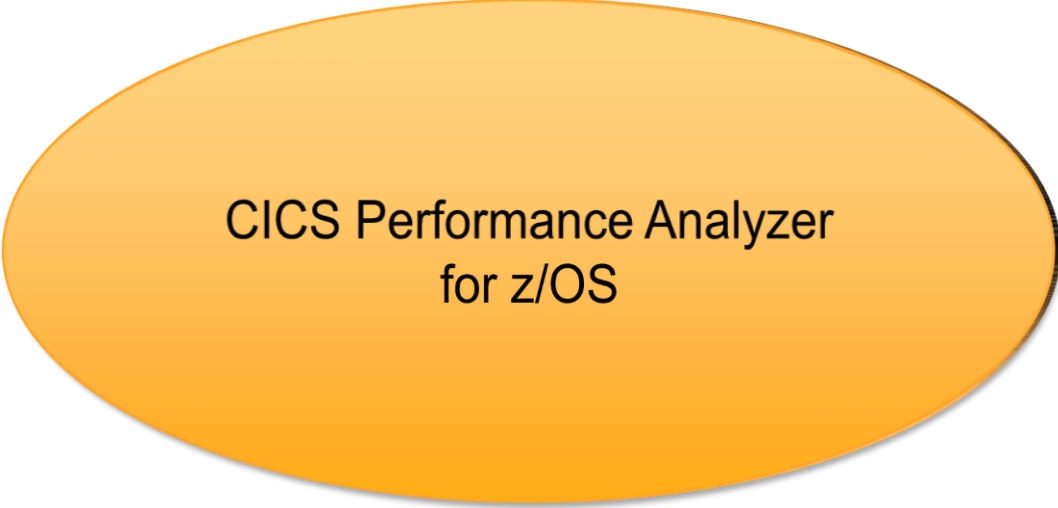
Cold start analysis

What's new

Summary and questions

What are CICS Tools?



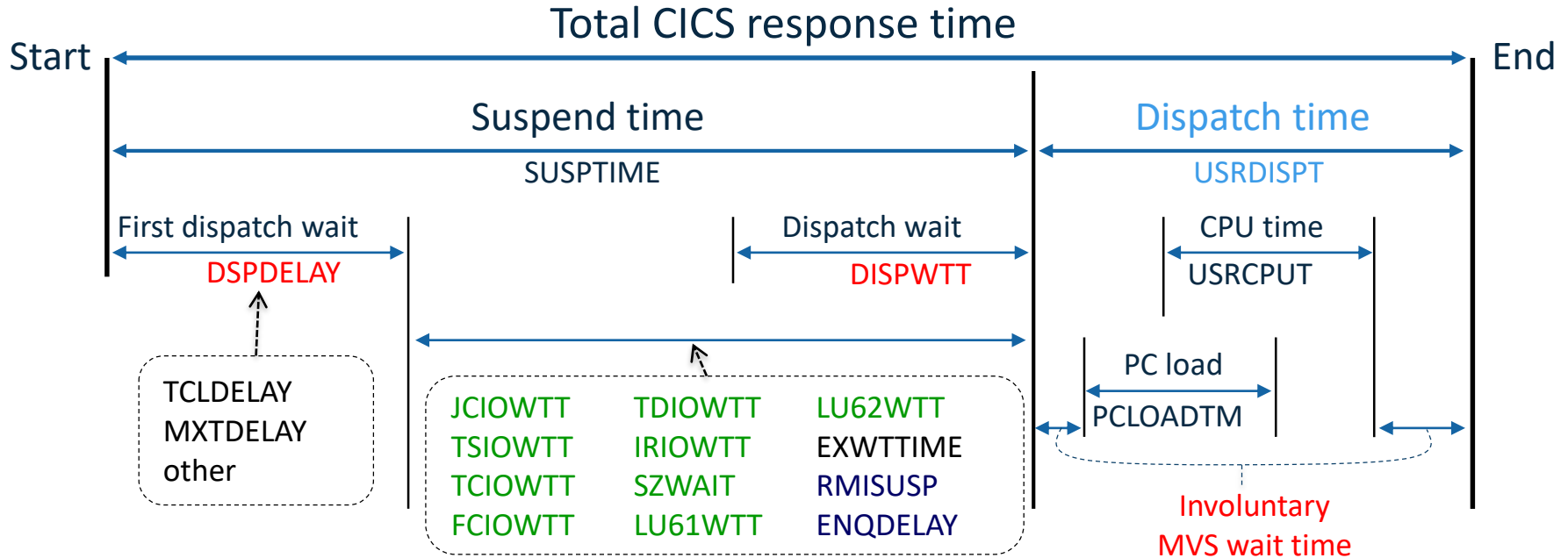
A large, horizontally-oriented oval with a gradient from light orange to a darker orange, centered on the page. It has a thin black outline and a subtle drop shadow.

CICS Performance Analyzer
for z/OS

CICS PA: Who can obtain value from it?

- Anyone who needs to monitor and manage CICS system and CICS application performance.
 - CICS System Programmers
 - System performance monitoring and tuning
 - Improve CICS system resource usage
 - Improve transaction response times
 - CICS Application Programmers
 - Analyze CICS application performance
 - Transaction performance monitoring
 - DB2 and VSAM database performance monitoring
 - IT Managers
 - Capacity planning
 - Service Level Agreements
 - Provide ongoing system management and measurement reports

Response time structure of CICS transaction is complex



What is CICS Performance Analyzer ?

A Comprehensive Performance Reporting and Analysis tool for CICS

- Uses SMF data as input for reports
 - SMF 110: CMF Performance, Resource, and Exception Class
 - SMF 110: CICS Statistics and CICS Server Statistics data
 - SMF 101: DB2 Accounting records
 - SMF 116: WebSphere MQ Accounting records
 - SMF 112: OMEGAMON for CICS records
 - SMF 88: z/OS System Logger
 - SMF 111: CICS Transaction Gateway Statistics data

110
CICS
monitoring
facility

110
CICS TS
statistics

101
DB2
accounting

116
MQ
accounting

112
OMEGAMON
for CICS

88
System
logger

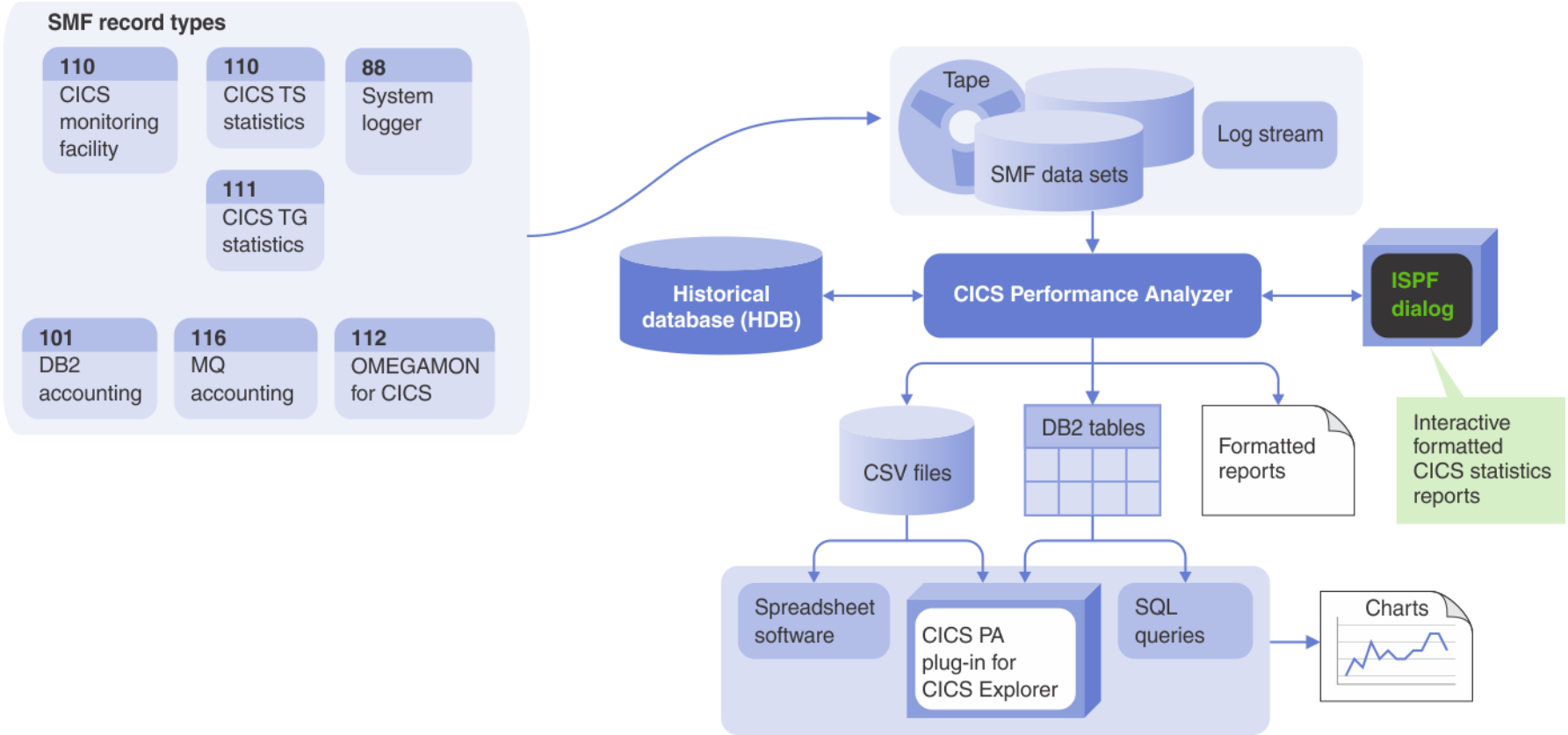
111
CICS TG
statistics

What is CICS Performance Analyzer ?

CICS PA helps ...

- Analyze CICS application performance
- Improve CICS resource usage
- Evaluate the effects of CICS system tuning efforts
- Improve transaction response time
- Provide ongoing system management and measurement reports
- Increase availability of resources
- Increase the productivity of system and application programmers
- Provide awareness of usage trends

CICS PA Architecture



CICS PA has over 200 Sample Report Forms

File Options Help

Sample Form Search

Command ==>

Specify searching criteria then press Enter.

Search String:

Performance:

- List
- List Extended
- Summary

Categories:

- | | |
|---------------------------------|---------------------------------------|
| - Transaction Overview | - CPU Usage and Analysis |
| - Transaction Tracking | - Platforms, Applications and Policy |
| - Channels and Containers Usage | - Transaction Communications Activity |
| - Transaction Storage Usage | - Transaction Data Access |
| - Top Lists and Distributions | - Web and Web Services |
| - Transaction Resource Usage | - Java |
| - Miscellaneous | |

Categories based on performance concern.

CICS PA has over 200 Sample Report Forms

File Confirm Samples Options Help

Report Forms

Row 1 to 23 of 77

Command ==>

Scroll ==> CSR

Report Forms Data Set . . : CPA540.WJXW.RSSAMP.FORM

/	Name	Type	Description	Changed	ID
-	ABNDLST	LIST	Transaction Abend List	2017/06/01 00:00	CICSPA
-	ABNDSUM	SUMMARY	Transaction Abend Summary	2017/06/01 00:00	CICSPA
-	ACCTSUM	SUMMARY	Accounting Summary HDB Extract	2017/06/01 00:00	CICSPA
-	BADCHMDS	LISTX	Top 20 Worst Change TCB Modes	2015/10/20 10:53	CICSPA
-	BADCPU	LISTX	Top 20 Worst CPU Times	2015/12/15 00:00	CICSPA
-	BADDB2RQ	LISTX	Top 20 Worst DB2 Requests	2017/06/01 00:00	CICSPA
-	BADFCRQ	LISTX	Top 20 Worst File Requests	2015/12/15 00:00	CICSPA
-	BADRESP	LISTX	Top 20 Worst Response Times	2015/12/15 00:00	CICSPA
-	BADRMIR	LISTX	Top 20 Worst CICS RMI Times	2017/06/01 00:00	CICSPA
-	BADRMIRQ	LISTX	Top 20 Worst CICS RMI Requests	2017/06/01 00:00	CICSPA
-	BADSUSP	LISTX	Top 20 Worst Suspend Times	2017/06/01 00:00	CICSPA
-	BADTDTRQ	LISTX	Top 20 Worst Tdqueue Requests	2017/06/01 00:00	CICSPA
-	BADTSRQ	LISTX	Top 20 Worst Tsqueue Requests	2015/12/15 00:00	CICSPA
-	BADWBRQ	LISTX	Top 20 Worst CICS Web Requests	2017/06/01 00:00	CICSPA
-	BADWMQRQ	LISTX	Top 20 Worst WebSphere MQ Reqsts	2017/06/01 00:00	CICSPA
-	BTSACLST	LIST	CICS BTS Activity - Overview	2017/06/01 00:00	CICSPA
-	BTSRQLST	LIST	CICS BTS Request Activity	2017/06/01 00:00	CICSPA
-	BTSRQSUM	SUMMARY	CICS BTS Request Activity	2017/06/01 00:00	CICSPA
-	CCLST	LIST	Channel Container Activity	2017/06/01 00:00	CICSPA
-	CCSUM	SUMMARY	Channel Container Activity	2017/06/01 00:00	CICSPA
-	COMMWLST	LIST	Transaction Comms Wait Analysis	2017/06/01 00:00	CICSPA
-	CPUSPLST	LIST	Transaction CPU Analysis (V5)	2015/12/15 00:00	CICSPA
-	CPUSUM	SUMMARY	Transaction CPU Analysis	2015/12/15 00:00	CICSPA

You can use each sample as it is, or easily customize it.

Easy to Customize Sample Reports

```
File Edit Confirm Upgrade Options Help
-----
EDIT LIST Report Form - FCLIST      Row 1 of 430 More: >
Command ===> _____ Scroll ===> CSR

Description . . . List Report Form      Version (VRM): 710

Selection Criteria:
_ Performance                          Page width . . 132

Field
/ Name +   Type   Fn   Description
-----
TRAN      _____ Transaction identifier
d USERID  _____ User ID
d PROGRAM  _____ Program name
TASKNO    _____ Transaction identification number
STOP      TIMET    _____ Task stop time
RESPONSE  _____ Transaction response time
DISPATCH TIME    _____ Dispatch time
CPU       TIME    _____ CPU time
h 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
```

7 Date/Time formats are available

Move the required fields above EOR to include in the report

Help facility provides expanded description of each field

Extensive Help Features

File Edit Confirm Upgrade Options Help

File Help

Field Selection

Command ==>

Name SUSPEND +
CMF ID : SUSPTIME DFHTASK S014
Description . : Suspend time

Total elapsed wait time for which the user task was suspended by the dispatcher. This includes:

1. The elapsed time waiting for the first dispatch. This also includes any delay incurred because of the limits set for this transaction's transaction class (if any) or by the system parameter MXT being reached.
2. The task suspend (wait) time.
3. The elapsed time waiting for redispach after a suspended task has been resumed.

Wait Analysis Report

V5R2M0

CICS Performance Analyzer
Wait Analysis Report

WAIT0001 Printed at 14:00:18 9/03/2015 Data from 21:39:59 8/19/2015 to 21:45:00 8/19/2015 Page 1

Tran=K123

Summary Data

	Time		Count		Ratio
	Total	Average	Total	Average	
# Tasks			102218		
Response Time	56654.3262	0.5542			
Dispatch Time	7596.7000	0.0743	1590989	15.6	13.4% of Response
CPU Time	135.6206	0.0013	1590989	15.6	1.8% of Dispatch
→ Suspend wait Time	49057.6244	0.4799	1590989	15.6	86.6% of Response
Dispatch Wait Time	18065.9780	0.1767	1488771	14.6	36.8% of Suspend
QR TCB Redispach wait Time	17286.8408	0.1691	849251	8.3	95.7% of Dispwait
Resource Manager Interface (RMI) elapsed time	7020.7512	0.0687	4778376	46.7	12.4% of Response
Resource Manager Interface (RMI) suspend time	0.0000	0.0000	1	0.0	0.0% of Suspend

Suspend Detail

	Suspend Time				Count	
	Total	Average	%age	Graph	Total	Average
→ DSPDELAY First dispatch wait time	20997.4858	0.2054	42.8%	*****	102218	1.0
TCLDELAY > First dispatch TCLSNAME wait time	13764.6029	0.1347	28.1%	*****	6959	0.1
DSCHMDLY Redispach wait time caused by change-TCB mode	12743.3060	0.1247	26.0%	*****	1243486	12.2
LU62WTT LU6.2 wait time	7360.2086	0.0720	15.0%	***	103350	1.0
ENQDELAY Local Enqueue wait time	5398.7100	0.0528	11.0%	**	9562	0.1
FCIOWTT File I/O wait time	1667.7074	0.0163	3.4%		111429	1.1
LMDELAY Lock Manager (LM) wait time	888.7386	0.0087	1.8%		20912	0.2
N/A Other wait Time	1.4682	0.0000	0.0%		32	0.0

Statistics Alert Reporting ...

V3R2M0

CICS Performance Analyzer
Statistics Alerts - List by APPLID

STAL0001 Printed at 12:26:59 1/09/2012 Data from 14:15:00 12/21/2011 to 14:44:55 12/21/2011

System: CICSPA01 Image: SYSD VRM: 660 Type: TS

Sev	Alert	Threshold	Actual	Collection Time	Type
C	Maximum active transactions in class reached Tclass Name = TRCLIB92	>10	27	2011-12-21 14.15.00	INT
C	Maximum active transactions in class reached Tclass Name = TRCLIB92	>10	22	2011-12-21 14.30.00	INT
W	DB2 peak protected threads (% of limit) DB2ENTRY Name = IB59	>=90	100	2011-12-21 14.15.00	INT
W	DB2 peak protected threads (% of limit) DB2ENTRY Name = IB61	>=90	100	2011-12-21 14.15.00	INT
W	DB2 peak protected threads (% of limit) DB2ENTRY Name = IB66	>=90	100	2011-12-21 14.15.00	INT
W	DB2 peak protected threads (% of limit) DB2ENTRY Name = IB75	>=90	100	2011-12-21 14.15.00	INT
W	Peak transactions in tran. class (% of limit) Tclass Name = TRCLIB92	>=90	100	2011-12-21 14.15.00	INT
W	DB2 peak protected threads (% of limit) DB2ENTRY Name = IB59	>=90	100	2011-12-21 14.30.00	INT
W	DB2 peak protected threads (% of limit) DB2ENTRY Name = IB61	>=90	100	2011-12-21 14.30.00	INT
W	DB2 peak protected threads (% of limit) DB2ENTRY Name = IB66	>=90	100	2011-12-21 14.30.00	INT
W	DB2 peak protected threads (% of limit) DB2ENTRY Name = IB75	>=90	100	2011-12-21 14.30.00	INT
W	Peak transactions in tran. class (% of limit) Tclass Name = TRCLIB92	>=90	100	2011-12-21 14.30.00	INT

System: CICSPA01 Image: SYSD VRM: 660 Type: TS

CICS PA – Integration with the CICS Explorer

CICS PA - IBM Explorer for z/OS

File Edit Navigate Search Project Run Window Help

Quick Access z/OS CICS SM CICS DA CICS IA CICS PA CICS CM APA File Manager

Transaction summary (106/106 rows) Transaction ID != C*

Applid: IVDZEJ02, Transaction ID != C*:

Start Date	Start time	Applid	Transacti...	Task ter...	Respons...	User Disp...	User Disp...	User CPU...	User CPU...	Suspend ...	Suspend ...	Dispat	
2010-12-10	12.00.00	IVDZEJ02	OE5		2	4.277492	72.500000	0.125923	72.500000	0.081853	72.500000	4.151569	71.50
2010-12-10	12.20.00	IVDZEJ02	/FOR		2794	0.001981	1.017180	0.001265	1.017180	0.000429	1.017180	0.000717	0.01

Alerts

Alert description	Start Date	Start time	Applid	MVS ID	Resource ...	Resource ...	Actual	Threshold
Maximum active transactions in class reached	2010-12-...	13.48.00	IVDZEJ02	MV2F	Tclass Name	TCLSDSW1	19	>10
Enqueues waited in ENQ pool - local	2010-12-...	13.48.00	IVDZEJ02	MV2F	ENQ Pool ID	FCDSRECD	37	>25
Maximum active transactions in class reached	2010-12-...	13.00.00	IVDZEJ01	MV2F	Tclass Name	DFHTCLO2	30	>10

XMR TRANSACTION

XMR TRANSACTION statistics for Applid IVDZEJ02, Transaction /FOR, Records after: 2010-12-10 13.54.00.

Start Date	Start time	Interval Number	Applid
2010-12-10	13.48.00	8 (Interval)	IVDZEJ02

Transaction ID /FOR (IVD...)

Transaction attaches 1548 (34%) (40%)

Total transactions 4544

Transaction class TCLSDSW1

Transaction class attaches 3886 (86%)

(Storage violations) 0

XMC TRANCLASS

XMC classes statistics for Applid IVDZEJ02, Transaction class TCLSDSW1, Records after: 2010-12-10 13.42.00. Records before: 2010-12-10 13.54.00.

Start Date	Start time	Interval Number	Applid
2010-12-10	13.48.00	8 (INT) 8	(19)
2010-12-10	13.49.00	8 (INT) 9	(128)
2010-12-10	13.50.00	8 (INT) 10	(285)
2010-12-10	13.51.00	8 (INT) 11	(500)
2010-12-10	13.52.00	8 (INT) 12	(412)
2010-12-10	13.53.00	8 (INT) 13	(76)

Transaction class TCLSDSW1

Transaction class attaches 3886 (86%)

Current active 19

Peak active 500

Max active 500

(Times at Max active) 76

Start Date 2010-12-10, Start times=12.20.00, Applid=IVDZEJ02, Transaction ID= /FOR

Transaction response time (average)

Average Response time of 0.001981 seconds.

Performance averages at a glance

CICS Response time, Suspend time detail, CPU time, CICS TCB usage

CICS Response time (averages)

2794 transaction(s); 0.017180 TCB mode switches (average). 0.001981 seconds average response measurement

- CICS Response time
 - User Dispatch time
 - User CPU time
 - Suspend time
 - Dispatch wait time

DemoMVS Smarter Dev

9:31 AM 6/26/2013

New in CICS PA V5.4 (June 16, 2017)

New CICS Performance and Statistics data

- Stats Reports now support Field sorting
- Transaction Tracking – Call sequence by **time** or **call**

Asynchronous API transaction CMF fields

- ASFREECT, ASFTCHCT, ASFTCHWT, ASRNATWT, ASRUNCT, ASTOTCT, MPSRACT, MPSRECT, PTSTART, PTTASKNO, PTTRAN, PTLATNCY

12 New Sample Forms

ASLST	LIST	Asynchronous API Activity	PTCSUM1	SUMMARY	Previous Tran by OAPPLID
ASSUM	SUMMARY	Asynchronous API Activity	PTCSUM3	SUMMARY	Previous Tran by OAPPLID/OTRAN
BADASFWT	LISTX	Top 20 Worst Async API Fetch Waits	PTCSUM4	SUMMARY	Previous Tran by OTRAN
MPMISC4	SUMMARY	Platform – Misc Requests Summary	PTILIST1	LISTX	Previous Tran List by TRAN
PLCYRLST	LIST	Policy Rules Analysis Detail	PTILIST2	LISTX	Previous Tran List by PTTRAN
PLCYRSUM	SUMMARY	Policy Rules Analysis Summary	TTLISTGF	LIST	Transaction Tracking Group (5.3)

3 New CICS PA derived fields

- **CPUINT** CPU Intensity (total CPU * #TTasks)
- **RESPINT** Response Intensity (total Response * #TTasks)
- **PTLATNCY**: The elapsed time from the start of the task that started this task to the start of this task (START-PTSTART)


What's New in CICS PA V5.4

- Order option in the Statistics Summary report

V5R4M0

CICS Performance Analyzer
Statistics Summary

SSUM0001 Printed at 14:13:31 1/09/2018 Data from 09:59:00 2016/10/06 to 10:28:40 2016/10/06 Page 1



APPLID	TCB Pool	Fin Max TCB Pool Limit	Max Peak TCBs Attached	Max Peak TCBs In Use	Max Max TCB Count	Tot Total Max TCB Wait Time	Tot Total MVS Storage Wait Time	Tot Total Max TCB Waits	Tot Total MVS Stor Waits	Max Peak TCB Waits	Tot Total TCB Mism Waits
CALMAS1	THREADED	201	83	83	0	00.00.00.000000	00.00.00.000000	0	0	0	0
IYK2Z1V1	OPEN	50	50	50	22	04.23.20.759115	00.00.00.000000	587	0	126	119
JATP2750	THREADED	31	27	26	0	00.00.00.000000	00.00.00.000000	0	0	0	0
IYK2ZKE1	THREADED	251	16	15	0	00.00.00.000000	00.00.00.000000	0	0	0	0
JATP3400	THREADED	16	16	15	0	00.00.00.000000	00.00.00.000000	0	0	0	0
ADWCICS	OPEN	32	13	13	0	00.00.00.000000	00.00.00.000000	0	0	0	0
IYK2Z1V2	OPEN	182	11	11	0	00.00.00.000000	00.00.00.000000	0	0	0	0
JATP0750	THREADED	16	11	10	0	00.00.00.000000	00.00.00.000000	0	0	0	0
JATP0600	THREADED	16	10	9	0	00.00.00.000000	00.00.00.000000	0	0	0	0
JATP0900	THREADED	16	10	9	0	00.00.00.000000	00.00.00.000000	0	0	0	0

What's New in CICS PA V5.4 – Derived fields

- New intensity fields help with transaction tuning
 - CPUINT (total CPU * #TTasks)
 - RESPINT (total Response * #TTasks)

```

EDIT SUMMARY Report Form - INTERACT
Command ==>
Description . . . CPU and Response time intensity
Selection Criteria:
- Performance
Field Sort
/ Name + K O Type Fn Description
--- TRAN K A --- Transaction identifier
--- TASKCNT --- Total Task Terminations
--- RESPONSE --- TOT Transaction response time
--- RESPINT --- TOT Response time intensity
--- CPU --- TIME TOT CPU time
--- CPUINT --- TIME TOT CPU time intensity
--- CPUONCPE --- TIME TOT Offload eligible CPU time
--- CPUONCP --- TIME TOT CPU time on standard
--- CPUONSP --- TOT CPU time on Special
--- CPUONCPN --- TOT CPU time on standard
--- CPUISSPE --- TOT CPU time that is off
--- CPUSU --- TOT CPU Service Units
--- EOR --- ----- End
    
```

V5R4M0

SUMM001 Printed at 14:39:22 1/09/2018

Tran	#TTasks	Total Response Time	RespInt	Total User CPU Time
CATA	1	.0234	0	.0017
CDBQ	1	.0106	0	.0019
CECI	4	9.6148	38	.0109
CEDA	2	6.8548	13	.0205
CEMT	10	133.8676	1338	.0794
CEPD	82	1109.507	90979	.4307
CEPF	1	206.1294	206	.0005
CEPM	1	206.5862	206	.0156
CEX2	3	194.4974	583	.0009
CFQR	1	217.3033	217	.0001
CFQS	1	217.3031	217	.0013
CGRP	1	.0604	0	.0007
CHCK	1	.0219	0	.0002
CISC	1	.0273	0	.0005

CICS Performance Analyzer
Performance Summary

Data from 16:03:18 10/06/2016 to 17:28:47 10/06/2016

CPUInt	CPUonCPE	CPUonCP	CPUonSP	CPUonCPn	CPUisSPE	Total SvcUnit
0	.0000	.0017	.0000	.0017	.0000	24.4441
0	.0000	.0019	.0000	.0019	.0000	26.5234
0	.0000	.0109	.0000	.0109	.0000	153.6516
0	.0000	.0205	.0000	.0205	.0000	288.4536
0	.0000	.0794	.0000	.0794	.0000	1116.980
35	.0000	.4307	.0000	.4307	.0000	6056.713
0	.0000	.0005	.0000	.0005	.0000	6.6584
0	.0000	.0156	.0000	.0156	.0000	219.8934
0	.0000	.0009	.0000	.0009	.0000	12.5924
0	.0000	.0001	.0000	.0001	.0000	.7852
0	.0000	.0013	.0000	.0013	.0000	17.8166
0	.0000	.0007	.0000	.0007	.0000	9.2528
0	.0000	.0002	.0000	.0002	.0000	2.8799
0	.0000	.0005	.0000	.0005	.0000	7.2957

Transaction Tracking List – Time Sequence

- Time sequence report provides transaction tracking in transaction start time order.
- By contrast, call sequence report provides transaction tracking hierarchical view of tasks through the various CICS systems

```
TRACK - Transaction Tracking List Report
Command ==> _____

System Selection:
APPLID . . _____ +
Image . . _____ +
Group . . _____ +

Report Required:
1 1. Time Sequence ←
   2. Call Sequence

Report Format:
Title . . _____
_____
_____

Selection Criteria:
_ Performance (Record pre-processing)
_ Performance (Groups post-processing)
```

```
Report Output:
DDname . . . . . TTLS0001
Print Lines per Page . . ____ (1-255)

Report Focus:
Origin Form . . . _____ +
Group Form . . . _____ +
```

```
CICSPA IN(SMFIN001),
APPLID(*),
LINECNT(60),
FORMAT(':', '/'),
PRECISION(4),
TRACKINGLIST(OUTPUT(TTLS0001),
EXTERNAL(CPAXW001),
→ TIMESEQ)
```

CICS Performance Analyzer
Transaction Tracking List - Time Sequence

TTLSTIME Printed at 15:15:20 3/15/2017

Data from 09:03:17 10/06/2016 to 10:28:46 10/06/2016

Page 1

OTran	Ouserid	OAPPLID	OTaskNo	OStart Time	OOrigin	OFcty	OTCPIPSr	Ocli6Adr	OCLIPORT
ROOT	CBAKER	IYK2Z1V1	101	09:57:30.3722	TERM	T184		9.20.201.194	49350

Tran	PTTran	PHTran	TaskNo	PRTaskNo	PRCount	Origin	APPLID	PHAPPLID	Start Time	Response Time	User CPU Time	Suspend Time	OSLatncy Time	PRLatncy Time
ROOT			101	0	0	TERM	IYK2Z1V1		09:57:30.3722	.1084	.0013	.0800	.0000	.0000
RLA1	ROOT		102	101	1	ASRUN	IYK2Z1V1		09:57:30.4003	.1367	.0005	.1164	.0281	.0281
RLA2	ROOT		103	101	1	ASRUN	IYK2Z1V1		09:57:30.					
RLA3	ROOT		104	101	1	ASRUN	IYK2Z1V1		09:57:30.					
RLA4	ROOT		105	101	1	ASRUN	IYK2Z1V1		09:57:30.					
RLA5	ROOT		106	101	1	ASRUN	IYK2Z1V1		09:57:30.					
RLA6	ROOT		107	101	1	ASRUN	IYK2Z1V1		09:57:30.					
RLA7	ROOT		108	101	1	ASRUN	IYK2Z1V1		09:57:30.					
SLA7	RLA7		109	108	2	START	IYK2Z1V1		09:57:30.					
CSMI		RLA6	85	107	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.					
CSMI		RLA5	86	106	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.4348	.0213	.0008	.0023	.0626	.0345
RLB2	RLA4		110	105	2	ASRUN	IYK2Z1V1		09:57:30.4477	10.2469	.0006	10.2252	.0755	.0474
RLC1	CSMI		87	86	1	ASRUN	IYK2Z1V3		09:57:30.4556	.0539	.0006	.0304	.0834	.0208
RLA8	ROOT		111	101	1	ASRUN	IYK2Z1V1		09:57:30.4561	.1555	.0004	.1376	.0839	.0839
RLA9	ROOT		112	101	1	ASRUN	IYK2Z1V1		09:57:30.4561	.1909	.0005	.1730	.0839	.0839
SLA1	ROOT		113	101	1	START	IYK2Z1V1		09:57:30.4561	.1823	.0004	.1733	.0839	.0839
CSM2		ROOT	88	101	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.4562	.0002	.0001	.0001	.0840	.0840
SLA1	CSM2		89	88	1	START	IYK2Z1V3		09:57:30.4563	.0699	.0006	.0530	.0841	.0001
CSMI		ROOT	90	101	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.4565	.0241	.0001	.0239	.0843	.0843
CSMI		RLA3	91	104	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.4744	10.2201	.0013	10.1811	.1022	.0740
SLA1	CSMI		92	85	1	START	IYK2Z1V3		09:57:30.4800	.0462	.0001	.0460	.1078	.0529
SLA1	CSMI		93	90	1	START	IYK2Z1V3		09:57:30.4800	.0462	.0001	.0461	.1078	.0235
RLA0	ROOT		114	101	1	ASRUN	IYK2Z1V1		09:57:30.4803	.1012	.0005	.0820	.1081	.1081
RLAA	ROOT		115	101	1	ASRUN	IYK2Z1V1		09:57:30.4803	15.7211	.0005	15.7083	.1081	.1081
RLB1	RLA2		116	103	2	ASRUN	IYK2Z1V1		09:57:30.4850	.1723	.0007	.1533	.1128	.0847
CSMI		RLAA	95	115	1	MRO	IYK2Z1V2	IYK2Z1V1	09:57:30.4979	15.7034	.0015	15.6515	.1257	.0176
SLA1	RLC1		94	87	2	START	IYK2Z1V3		09:57:30.5095	.0169	.0000	.0168	.1373	.0539
CSMI		RLA0	96	114	1	MRO	IYK2Z1V2	IYK2Z1V1	09:57:30.5168	.0646	.0007	.0377	.1446	.0365
RLC2		CSMI	95	96	2	IPIC	IYK2Z1V3	IYK2Z1V2	09:57:30.5450	.0362	.0005	.0136	.1728	.0282
RLC4		CSMI	96	95	2	IPIC	IYK2Z1V3	IYK2Z1V2	09:57:30.5763	15.6246	.0008	15.6047	.2041	.0784

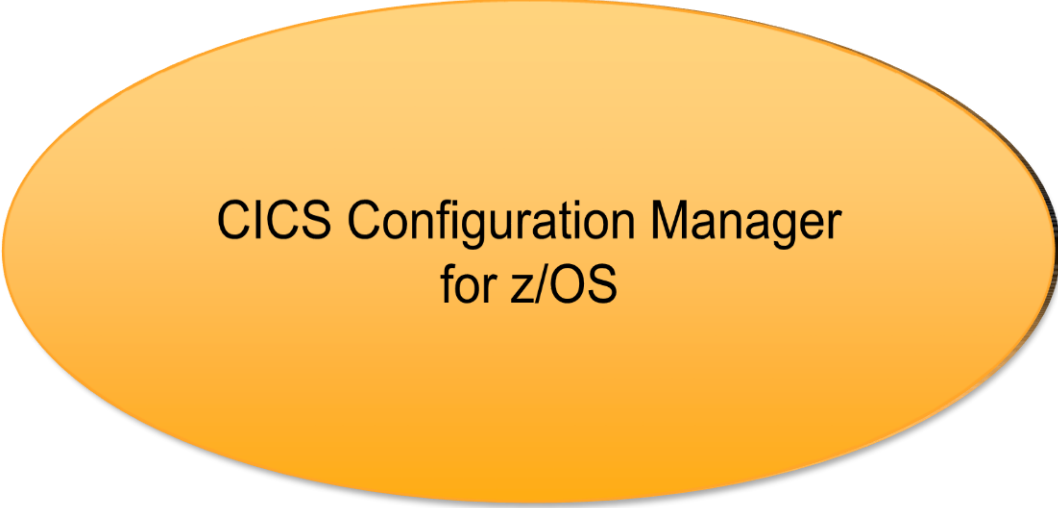
The Time Sequence report helps you ensure that the right events occur at the right time and in the right sequence.

The Origin section – which user started the transaction, when, how, and from where

OTran	OUserid	OAPPLID	OTaskNo	OStart Time	OOrigin	OFcty	OTCPIPSr	Ocli6Adr	OCLIPORT
ROOT	CBAKER	IYK2Z1V1	101	09:57:30.3722	TERM	T184		9.20.201.194	49350

Tran	PTTran	PHTran	TaskNo	PRTaskNo	PRCount	Origin	APPLID	PHAPPLID	Start Time	Response Time	User CPU Time	Suspend Time	OSLatncy Time	PRLatncy Time
ROOT			101	0	0	TERM	IYK2Z1V1		09:57:30.3722	.1084	.0013	.0800	.0000	.0000
RLA1	ROOT		102	101	1	ASRUN	IYK2Z1V1		09:57:30.4003	.1367	.0005	.1164	.0281	.0281
RLA2	ROOT		103	101	1	ASRUN	IYK2Z1V1		09:57:30.4003	.2570	.0005	.2462	.0281	.0281
RLB1	RLA2		116	103	2	ASRUN	IYK2Z1V1		09:57:30.4850	.1723	.0007	.1533	.1128	.1128
RLA3	ROOT		104	101	1	ASRUN	IYK2Z1V1		09:57:30.4003	10.2942	.0006	10.2675	.0281	.0281
CSMI		RLA3	91	104	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.4744	10.2201	.0013	10.1811	.1022	.1022
RLA4	ROOT		105	101	1	ASRUN	IYK2Z1V1		09:57:30.4003	.0474	.0005	.0343	.0281	.0281
RLB2	RLA4		110	105	2	ASRUN	IYK2Z1V1		09:57:30.4477	10.2469	.0006	10.2252	.0755	.0755
CSMI		RLB2	99	110	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.5938	10.1008	.0001	10.1006	.2216	.1462
RLA5	ROOT		106	101	1	ASRUN	IYK2Z1V1		09:57:30.4003	.0557	.0006	.0476	.0281	.0281
CSMI		RLA5	86	106	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.4348	.0213	.0008	.0023	.0626	.0345
RLC1	CSMI		87	86	1	ASRUN	IYK2Z1V3		09:57:30.4556	.0539	.0006	.0304	.0834	.0208
SLA1	RLC1		94	87	2	START	IYK2Z1V3		09:57:30.5095	.0169	.0000	.0168	.1373	.0539
RLA6	ROOT		107	101	1	ASRUN	IYK2Z1V1		09:57:30.4003	.0803	.0006	.0637	.0281	.0281
CSMI		RLA6	85	107	1	IPIC	IYK2Z1V3	IYK2Z1V1	09:57:30.4271	.0535	.0016	.0188	.0549	.0268
SLA1	CSMI		92	85	1	START	IYK2Z1V3		09:57:30.4800	.0462	.0001	.0460	.1078	.0529
RLA7	ROOT		108	101	1	ASRUN	IYK2Z1V1		09:57:30.4003	.0842	.0042	.0211	.0281	.0281
SLA7	RLA7		109	108	2	START	IYK2Z1V1		09:57:30.4103	.1619	.0005	.1267	.0381	.0100
RLA8	ROOT		111	101	1	ASRUN	IYK2Z1V1		09:57:30.4561	.1555	.0004	.1376	.0839	.0839
RLB5	RLA8		117	111	2	ASRUN	IYK2Z1V1		09:57:30.6116	.0643	.0005	.0455	.2394	.1555
SLA1	RLB5		118	117	3	START	IYK2Z1V1		09:57:30.6757	.0001	.0000	.0000	.3035	.0642

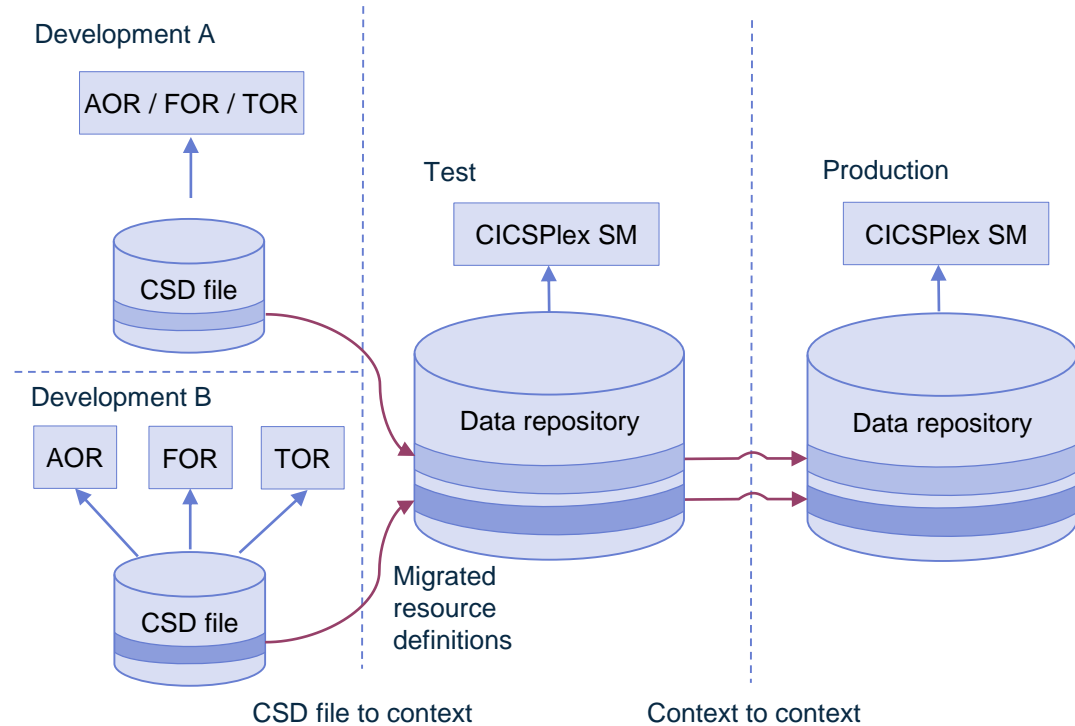
The Group section - lists the originating task and its subordinates.

A large, horizontally-oriented oval with a gradient from light orange to a darker orange, centered on the page. It has a thin black outline and a subtle drop shadow.

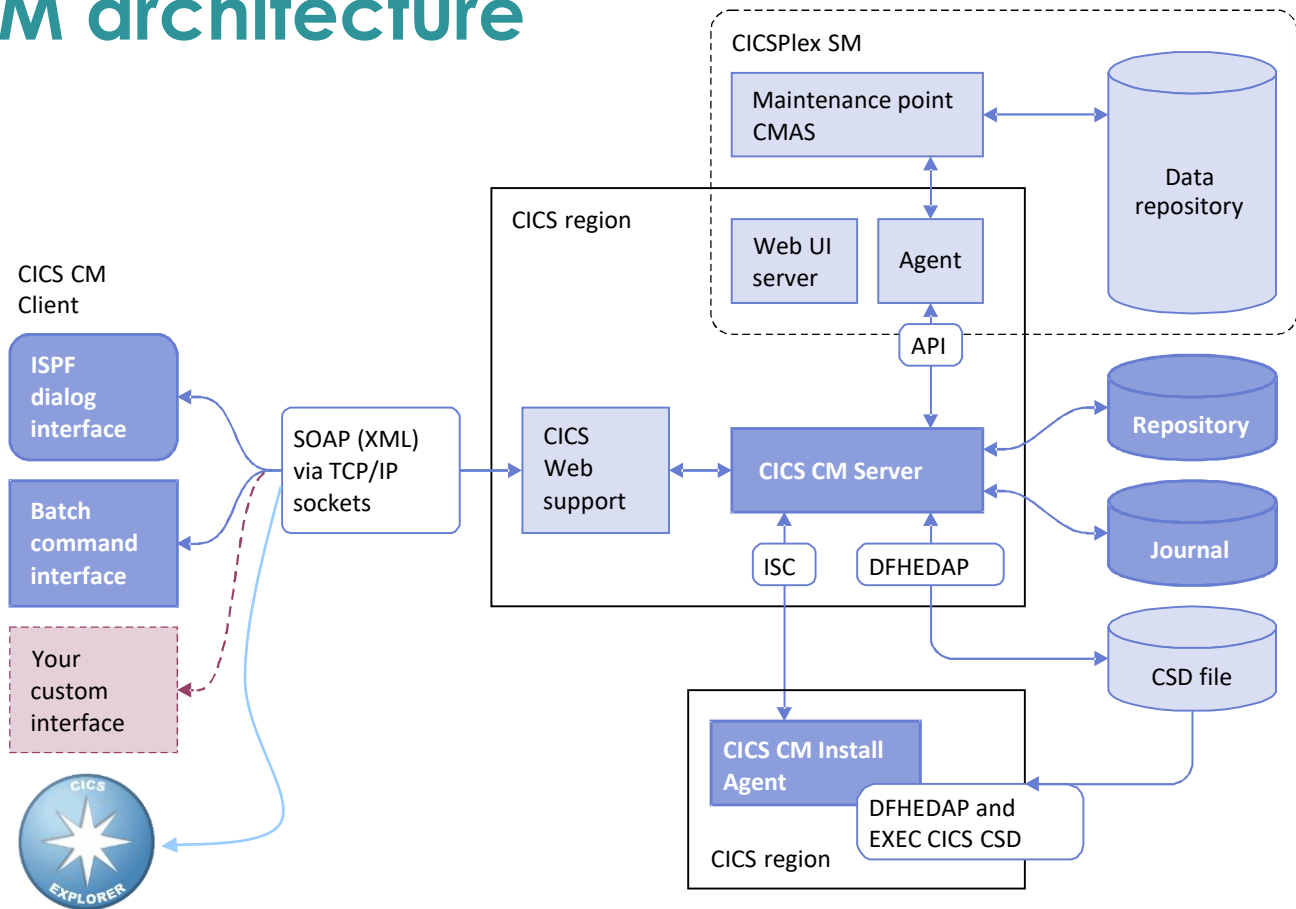
CICS Configuration Manager
for z/OS

Why the need for CICS CM

- Managing resource definitions on multiple repositories across diverse environments
- Single Point of Control with full audit control and backout
- Rapid and frequent updates to resource definitions to handle new business requirements
- Understanding the impact of definition attributes on target environments
- Identifying duplicate, redundant and inconsistencies in resource definitions

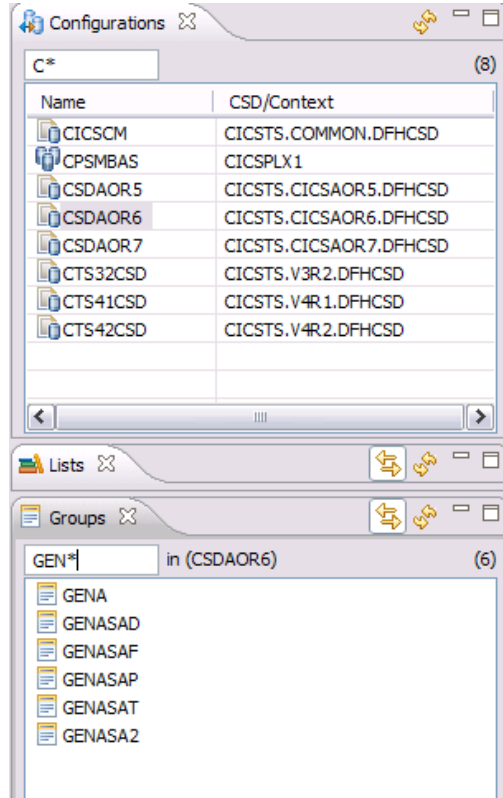


CICS CM architecture



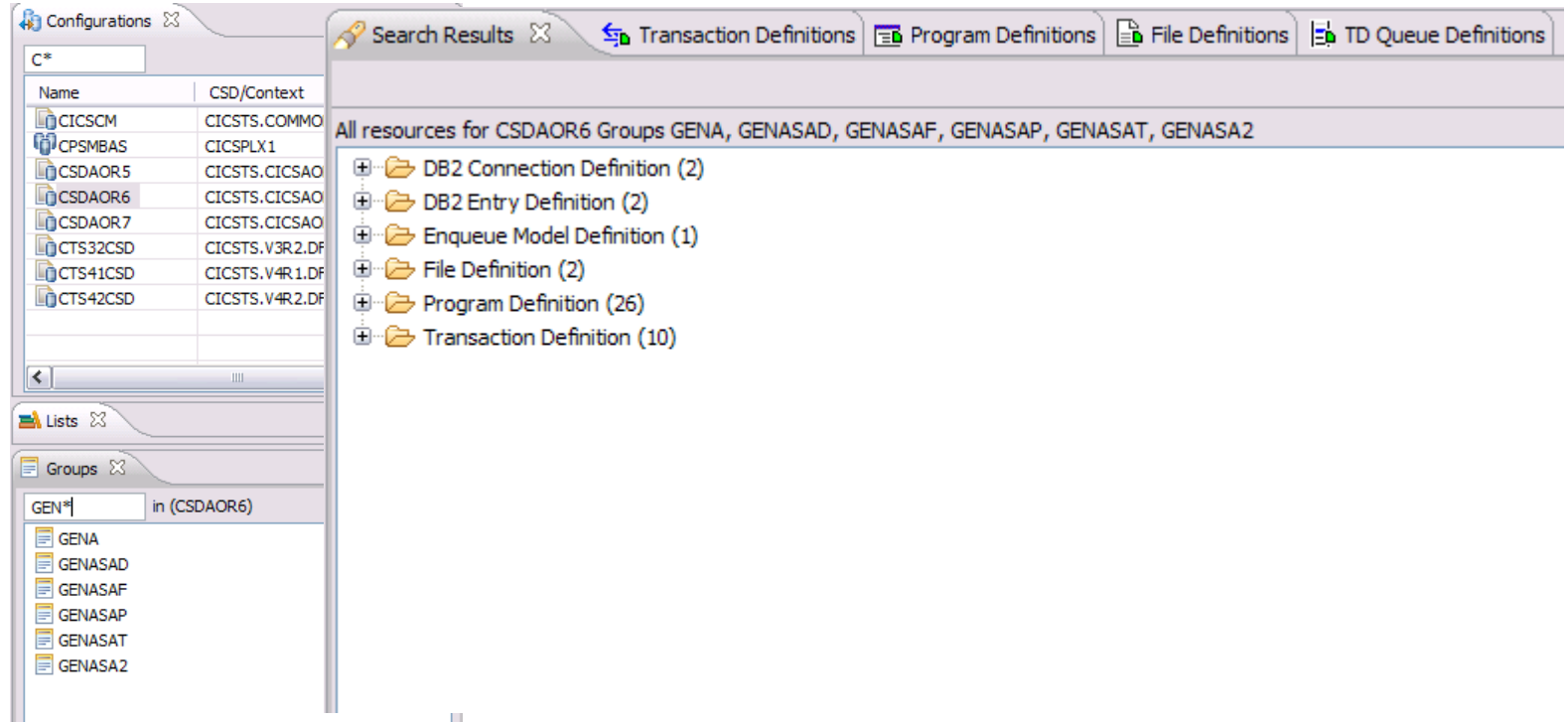
Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (Explorer)



Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (Explorer)



Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (Explorer)

The screenshot shows a software interface with a left sidebar and a main pane. The sidebar has sections for 'Configurations', 'Lists', and 'Groups'. The 'Groups' section shows a tree view with 'GENA*' selected, listing sub-groups: GENA, GENASAD, GENASAF, GENASAP, GENASAT, and GENASA2. The main pane has tabs for 'Search Results', 'Transaction Definitions', 'Program Definitions', 'File Definitions', and 'TD Queue Definitions'. The 'Search Results' tab is active, showing a search for 'DB2 Connection Definition (2)'. Below this, a table displays resource definitions for 'CNX0211I Context: GENASAP. Resource: PROGDEF. 26 records collected at May 16, 2012 10:01:09 PM'. The table has columns for Name, Version, Create Time, Change Time, Change User ID, Description, and Status.

Name	Versi...	Create Time	Change Time	Change User ID	Description	Status
LGICDB01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
LGICUS01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
LGICVS01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
LGIPDB01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
LGIPOL01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
LGIPVS01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
LGSETUP	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14	Initial setup of TSQueue	✓ ENABLED
LGSTSQ	0	Dec 13, 2011 12:20:46 PM	Dec 13, 2011 12:20:46 PM	DNETS14	Message output to TSQueues	✓ ENABLED
LGTESTC1	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14	Solution Customer Menu	✓ ENABLED
LGTESTP1	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14	Solution Motor Policy Menu	✓ ENABLED
LGTESTP2	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14	Solution Life Policy Menu	✓ ENABLED
LGTESTP3	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14	Solution House Policy Menu	✓ ENABLED
LGTESTP4	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14	Solution Commercial Policy Menu	✓ ENABLED
LGUPDB01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
LGUPOL01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
LGUPVS01	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14		✓ ENABLED
SSMAP	0	Dec 13, 2011 12:20:45 PM	Dec 13, 2011 12:20:45 PM	DNETS14	BMS Map	✓ ENABLED

Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories

The screenshot displays the IBM CICS Resource Definition Tool (RD) interface. On the left, a tree view shows the configuration structure with CSDs (CICSCM, CPSMBAS, CSDAOR5, CSDAOR6, CSDAOR7, CTS32CSD, CTS41CSD, CTS42CSD) and a list of programs under the GENASAP context. The main window shows the 'Program Definition (LGDPDB01)' details, including the 'Basic' tab with fields for Name, Description, CSD Group, and Enabled status. The 'Details' tab shows the Language set to COBOL and the 'Open Transaction Environment' section with options for thread safety and CPU intensity. The 'Storage' section includes options for 31-bit addresses, LPA, and CICS-key storage. The 'Program reuse' section has radio buttons for 'Reuse if possible', 'Force reuse', 'Always load a new copy', and 'Load a new copy whenever use count drops to zero'. On the right, a 'Definitions' panel shows a list of programs with their status, all of which are 'ENABLED'.

Name	CSD/Context
CICSCM	CICSTS.COMMO
CPSMBAS	CICSPLX1
CSDAOR5	CICSTS.CICSAO
CSDAOR6	
CSDAOR7	
CTS32CSD	
CTS41CSD	
CTS42CSD	

Name	Context
LGICDB01	GENASAP
LGICUS01	
LGICVS01	
LGIPDB01	
LGIPOL01	
LGIPVS01	
LGSETUP	
LGSTSQ	
LGTESTC1	
LGTESTP1	
LGTESTP2	
LGTESTP3	
LGTESTP4	
LGUPDB01	
LGUPOL01	
LGUPVS01	
SSMAP	

Program	Status
GENA	ENABLED
GENASAD	ENABLED
GENASAF	ENABLED
GENASAP	ENABLED
GENASAT	ENABLED
GENAS2	ENABLED
LGICDB01	ENABLED
LGICUS01	ENABLED
LGICVS01	ENABLED
LGIPDB01	ENABLED
LGIPOL01	ENABLED
LGIPVS01	ENABLED
LGSETUP	ENABLED
LGSTSQ	ENABLED
LGTESTC1	ENABLED
LGTESTP1	ENABLED
LGTESTP2	ENABLED
LGTESTP3	ENABLED
LGTESTP4	ENABLED
LGUPDB01	ENABLED
LGUPOL01	ENABLED
LGUPVS01	ENABLED
SSMAP	ENABLED

Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (ISPF)

```
Resources                               CICS Configurations                Row 1 to 31 of 31
Command ==> _____ Scroll ==> PAGE
More: < >

Filter * _____ * _____ * _____ * _____

/  Name      Context  File name      Format
___ CICSCM    _____ CICSTS.CICSCM.DFHCS
___ CPSCMBAS  CICSPLX1 _____ CPSM
___ CPSMBA5  CICSPLX1 _____ CPSM
___ CSDAOR3  _____ CICSTS.CICSAOR3.DFHCS
___ CSDAOR4  _____ CICSTS.CICSAOR4.DFHCS
___ CSDAOR6  _____ _____ _____
___ CSDAOR7  _____ _____ _____
___ CSDAOR8  _____ _____ _____
___ DEVT2553 _____ _____ _____
___ EXPORTPD _____ _____ _____
___ EXPORTST _____ _____ _____
___ EXPTST52 _____ _____ _____
___ JOE      _____ _____ _____
___ MEXICO   _____ _____ _____
___ MEXICOIM _____ _____ _____
___ MEXICSD  _____ _____ _____
___ ZTEST   _____ _____ _____
___ ZDEV    _____ _____ _____
```

```
File Menu Settings Checksum Show Help

Groups                               CSDAOR6 CICS Resources                Row 1 to 2 of 2
Command ==> _____ Scroll ==> PAGE

Filter GEN* _____

/  Group      Prompt
___ GENA
___ GENASAD
___ GENASAF
___ GENASAP
___ GENASAT
___ GENASA2
```

```
File Menu Settings Checksum Search Show Help

Resources                               CSDAOR6 CICS Resources                Row 1 to 10 of 10
Command ==> _____ Scroll ==> PAGE

Filter * _____ PROGRAM _____ + GEN* _____ * _____

/  Name      Type      Group      Prompt      --- Changed ---
___ LGACDB01  PROGRAM  GENASAP    _____  2017/09/15 10:48
___ LGACUS01  PROGRAM  GENASAP    _____  2017/10/09 14:42
___ LGACVS01  PROGRAM  GENASAP    _____  2017/10/09 14:42
___ LGAPDB01  PROGRAM  GENASAP    _____  2017/09/20 14:21
___ LGAPOL01  PROGRAM  GENASAP    _____  2017/11/14 14:31
___ LGAPVS01  PROGRAM  GENASAP    _____  2017/09/14 14:42
___ LGDPDB01  PROGRAM  GENASAP    _____  2017/08/11 13:32
___ LGDPOL01  PROGRAM  GENASAP    _____  2016/12/13 07:03
___ LGDPVS01  PROGRAM  GENASAP    _____  2016/10/18 09:04
___ LGICDB01  PROGRAM  GENASAP    _____  2016/12/15 14:30
___ LGICUS01  PROGRAM  GENASAP    _____  2016/12/15 14:30
___ LGICVS01  PROGRAM  GENASAP    _____  2016/12/15 14:30
```

Single point of control over Resource Definitions

- Access multiple CSDs, Data Repositories, Lists, and Groups from a single interface (ISPF)

The image displays three overlapping ISPF terminal windows illustrating resource definitions and program details.

Top Window: CICS Configurations

```

Resources                               CICS Configurations                Row 1 to 31 of 31
Command ===> _____ Scroll ===> PAGE
Filter * _____ * _____ * _____ * _____ * _____
/ Name Context File name
___ CICSCM
___ CPSCMBAS CICSPLEX1 CICSTS.CICSCM.DFHCS
___ CPSMBA5 CICSPLEX1
___ CSDAOR3
___ CSDAOR4
___ S CSDAOR6
___ CSDAOR7
___ CSDAOR8
___ DEVT255
___ EXPORTP
___ EXPORTS
___ EXPTST5
___ JOE
___ MEXICO
___ MEXICOI
___ MEXICSD
___ ZTEST
___ ZDEVT
    
```

Middle Window: CSDAOR6 CICS Resources

```

File Menu Settings Checksum Show Help
Groups                               CSDAOR6 CICS Resources
Command ===> _____
Filter GEN* _____
Resources                               CSDAOR6 CICS Resources
Command ===> _____
Filter * _____ PROGRAM _____ +
/ Name Type
___ LGACDB01 PROGRAM
___ LGACUS01 PROGRAM
___ LGACVS01 PROGRAM
___ LGAPDB01 PROGRAM
___ LGAPOL01 PROGRAM
___ LGAPVS01 PROGRAM
___ S LGDPDB01 PROGRAM
___ LGDPOL01 PROGRAM
___ LGDPVS01 PROGRAM
___ LGICDB01 PROGRAM
___ LGICUS01 PROGRAM
___ LGICVS01 PROGRAM
    
```

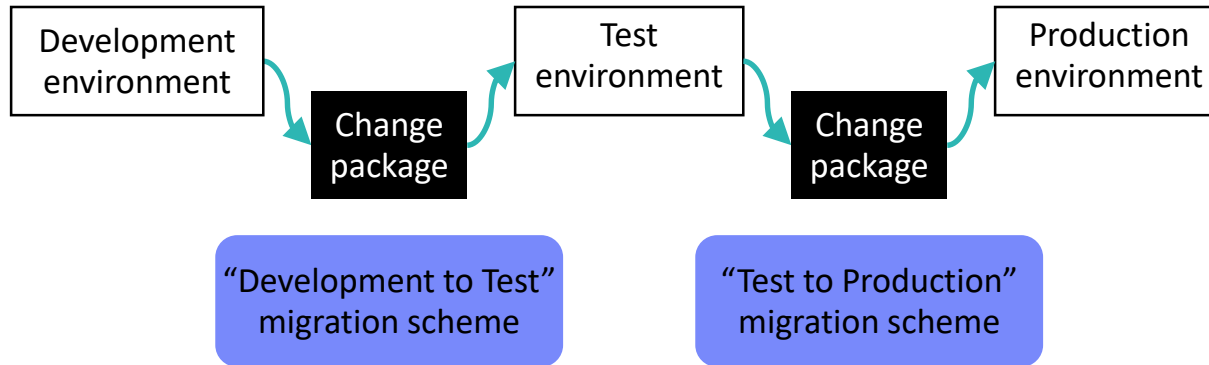
Right Window: Program Details

```

File Menu Settings Help
Edit                                     Program
Command ===> _____
Program . . . : LGDPDB01
Group . . . : GENASAP
Location . . . : CICSTS.CICSAOR6.DFHCS
Change Date . . :
Description . . :
More: +
Language . . . : COBOL + 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 . . : ANY + In-memory storage address data location
ExecKey . . . : USER + Program execution key
Concurrency . . : QUASIRENT + Concurrent execution resource protection
API . . . : CICSAPI + API interface used by the program
Remote Attributes
Dynamic . . . : NO + Dynamic routing status
RemoteSystem _____ Remote system name
RemoteName . . : _____ Program name in remote system
    
```

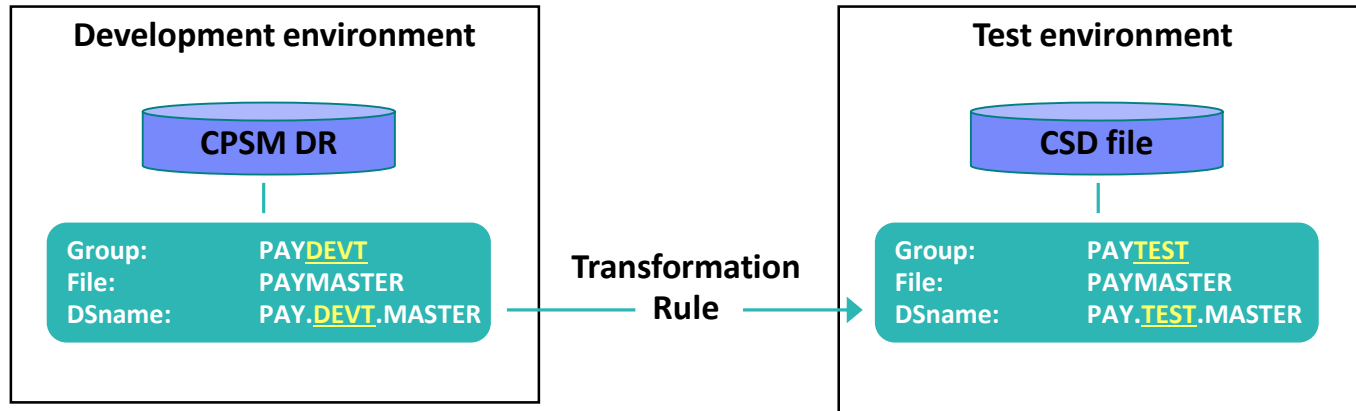
CICS CM: Migrating definitions through application life cycle

- Migration schemes identify source and target repositories
- Different schemes to progressively migrate a change package



CICS CM: Migrating definitions through application life cycle

- Transformation rules tailor definitions for each target:
 - No manual editing – it's automatic
 - Change Group names, attribute values, or resource definition names
 - Value masking is supported (e.g. change File DSNAME *DEVT* to *TEST*)
 - Qualification criteria may be specified



CICS CM – CICS resource definition lifecycle management

Benefits

- Eliminate manual and error prone processes
- Full audit trail and backout capability
- Integrate with source code change management processes

Change package created for resources in Development repository

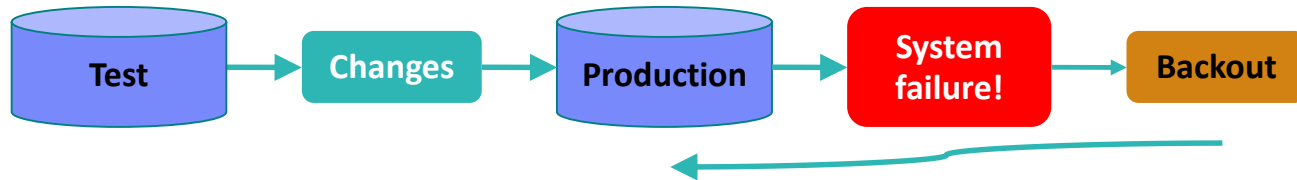
Install definitions in CICS regions on test environment

Package	Description	Last Action	Changtime
CP 1		CREATE	2012/05/21 06:49:
DEMO	Demo PKG	CREATE	2012/07/19 08:28:
Open	Development to Test	READY	2012/09/27 05:44:
Ready	of change packaging via explorer	READY	2012/09/19 08:38:
Unready	or Humana	UNREADY	2012/09/25 21:26:
Migrate	package for Eric	MIGRATE	2012/09/26 13:51:
Backout	tion of GENAPP resource	MIGRATE	2012/04/29 12:40:
SFCPKG1	Package for SFC app	MIGRATE	2012/05/02 17:52:
SSACHPKG	Change package for WMQ definitions	MIGRATE	2012/07/11 03:44:
00000001	Migrate resources from CICS TS 3.2 to 4.1	READY	2012/04/18 05:31:
00000002	Migrate from AOR6 to AOR7	MIGRATE	2012/02/13 08:24:
00000003	Migrate from CSD to CPSM BAS	BACKOUT	2012/05/30 03:55:

Change package migrated to test environment

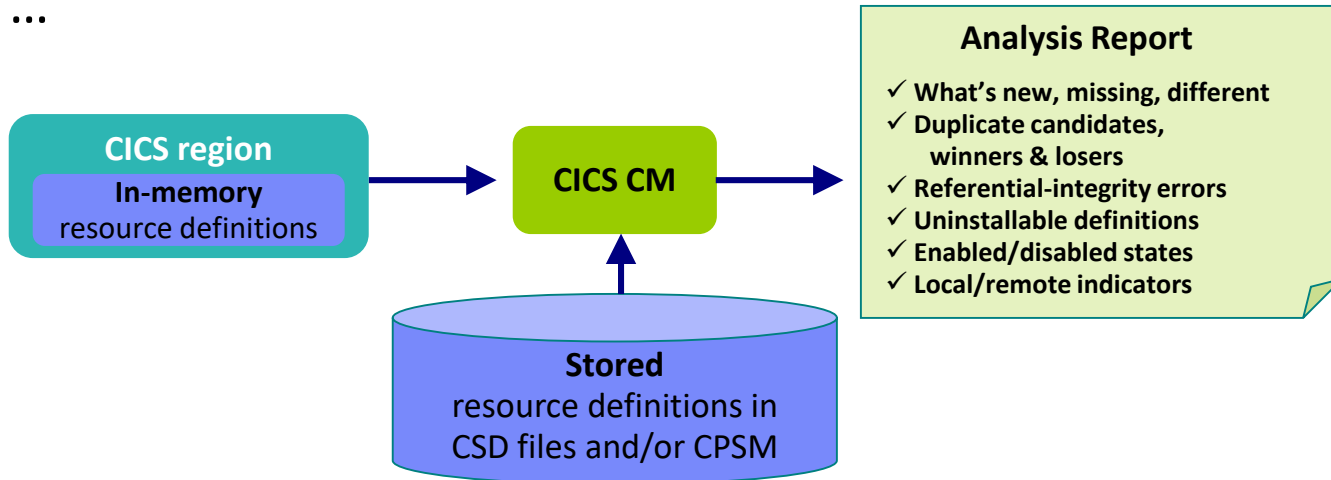
CICS CM: Backout and audit compliance

- All changes logged to a journal file
- Backout entire change package
- Recover individual resource definitions
- View resource definition histories on screen
- Batch, ISPF and Explorer view of change history



CICS CM: Deployment analysis

- Immediate analysis – no need to stop/start CICS regions
- Supports CSD, CPSM, or CSD/CPSM hybrid models
- Understands ‘order-sequence’ processing and RASGNDEF overrides
- Provides filtering for auto-install, dynamic resources, known conditions
- Reports ...



CICS CM: Deployment analysis

All regions : 2015-03-10 16:56:02										CICSAOR6 Runtime coldstart compare_201502170933.dar									
02	2015/02/17	09:33:50	4422	Candidates CSD	2	MVSA				C22F	CICSCM	CICSCM	CCM1	0520	0520				

TR: Target Region
CCM: CICS Configuration Manager Server

Report Summary

Report Set 1	Report Set 2	Code	Description
4190	4190		Total matched definitions with no exceptions
155	102		Total mismatched definitions
0	129		Total definitions excluded from analysis

Filtering Summary

Report Set 1	Report Set 2	Code	Description
5	6	00**	Matched definitions suppressed by filters
0	28	01**	New definitions suppressed by filters
80	0	02**	Missing definitions suppressed by filters
48	48	03**	Mismatched definitions suppressed by filters
0	0	05**	Inventory report records suppressed by filters
0	91		Duplicate definitions found
0	169	08**	Duplicates suppressed by filters
0	87		RI-check exceptions found
0	63	09**	RI-checks suppressed by filters
133	314		Total definitions suppressed by filters

Matched definitions

Missing definitions

ID	Name	Type	Group	List or RESDE...	Code	Condition	Local or Re...	Enabled or D...	VV	Deploy Chec...	Collection Type	RASGNDEF ...	Grou...
01	CJF9NXLN	PROGDEF	SYSTEM	N/A	0200	Missing	Local	Enabled		F860133C	Runtime CSD		

Referential integrity verification

ID	Name	Type	Group	List or RESDE...	Code	Condition	Local or Re...	Enabled or D...	VV	Deploy Chec...	Collection Type	RASGNDEF ...	Grou...
02	FMNC	CONNDEF	FMNCONN	LISTAOR6	099B	CCV5502E	Local	Enabled		488235FA	Candidates CSD		64
02	ZERO	CONNDEF	DFHSZERO	LISTAOR6	0941	CCV5441E	Local	Enabled		E3ECE96D	Candidates CSD		66
02	ZERO	SESSDEF	DFHSZERO	LISTAOR6	0941	CCV5441E	Local	N/A		C5422CC5	Candidates CSD		66

Missing

RI errors

CICS CM plug-in for UrbanCode Deploy

- **What is UrbanCode Deploy?**
 - IBM UrbanCode Deploy orchestrates and automates the deployment of applications, middleware configurations and database changes
 - CICS has provided a plugin for UrbanCode Deploy that supports the deployment of CICS applications as part of these orchestrations
 - <https://developer.ibm.com/urbandcode/products/urbandcode-deploy/>
- **CM UrbanCode Deploy plug-in:**
 - Enables migration of CSD and/or CICSplex SM BAS definitions across development, Test, QA and Production environments.
 - Provides function for READY, MIGRATE, INSTALL and BACKOUT of CICS CM Packages
- **What's the value?**
 - Multiple deployment steps for various environments can be coordinated as a single action
 - Deployment processes can be automated for efficiency, reliability and to reduce errors that could occur from manual processes

CICS CM V5.4 new capabilities (Dec 2017)

- zFS file management
- Write commands to DFHCSDUP-format export files
- DFHCSDUP audit collection
- Inhibit server connection input on the CICS CM ISPF main menu
- PKG packaging security
- Improved SSL connect messages
- Support for CICS TS V5.4 including MQMONITOR

zFS support

Problem

- Some CICS resource definitions have related zFS files, for example AtomService config files and WebService WSDL files.
- **I need configuration control over these too.**

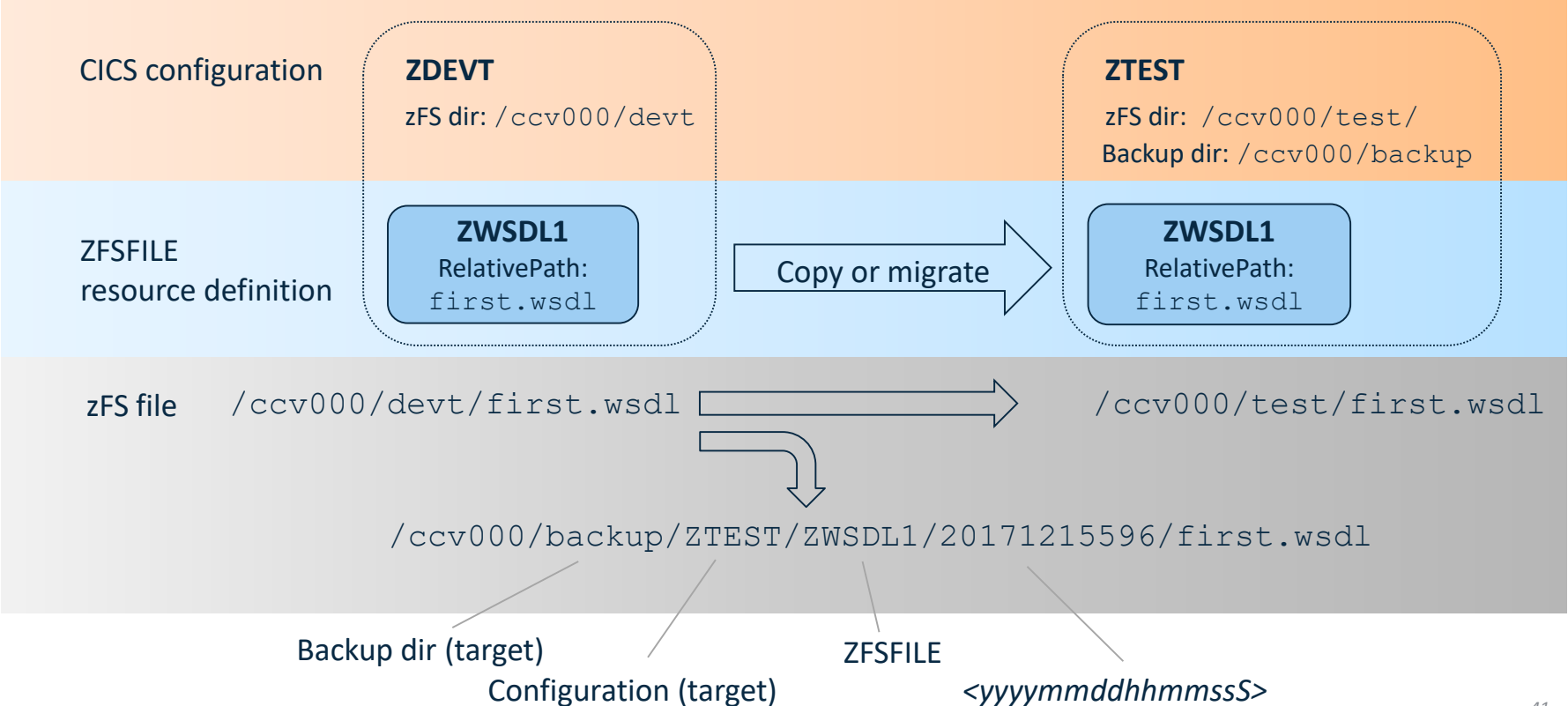
Solution

- Define 'zFS directory' CICS configurations, and ZFSFILE resource definitions that refer to zFS files. Then migrate or copy the ZFSFILES to the desired CICS configuration.

Value

- Easier configuration control. Effectively, you can migrate both CICS resources and zFS files in one change package.

zFS support - overview



zFS CICS configuration

```

Edit                                     CICS Configuration
Command ==> _____

Name . . . . : ZTEST
Description . . A source directory where zFS files are stored

Specify the type of Configuration
4 1. CICSPlex SM context . . _____
   2. CSD file . . . . . _____
   3. Export-import file . . _____
   4. zFS directory . . . . . /ccv000/test/      +>

Choose a view for related options
5 1. Transform      2. CSD      3. CSD remote    4. Export      5. zFS
   variables        options    connections  options      options

Define zFS processing options
Backup method . . . . DIR  +  DIR or NONE
Backup count . . . . 9    0, 3-9
Backup directory . . /ccv000/backup/      +>

```

ZFSFILE resource definition

```
Edit                                     ZFSFILE
Command ==> _____

Name . . . . . : ZWSDL1
Location . . . . : /u/products/ccv000/wabc/devt/
Change Date . . . :
Description . . . : This resource definition ZWSDL1, refers to file first.wsd1
                                                              More: +

Attributes                                Description
RelativePath . first.wsd1 _____ +>
. . . _____
. . . _____
. . . _____
. . . _____

Information Attributes
Data1 . . . . . _____ Data1 (CICS resource name)
Data2 . . . . . _____ Data2 (CICS resource type)
Data3 . . . . . _____ Data3 (CICS resource group)
Data4 . . . . . _____ Data4 (CICS resource attribute)
```

Better support for DFHCSDUP export files

Problem

- CICS CM is not available on a remote system. I can already use a DFHCSDUP-format export file to get resources to that system, but I can't export commands to that file to do tasks like deleting resources from a group.

Solution

- You can now write change package commands to a DFHCSDUP-format export file.

Value

- You can take advantage of the benefits of CICS CM even when a few of your systems are not running the CICS CM server.

Better support for DFHCSDUP export files

Previously...

1. Package a command (an Add command in this example)

```
Package Change Package JWCP1 Row 1 to 1 of 1
Command ===> _____ Scroll ===> PAGE

Filter SAMP PROGRAM + P* $HOMEPLX *

/ Name Type ResGroup Prompt Config --- Changed ---
CA SAMP PROGRAM PERFORM $HOMEPLX 2014/08/12 14:28
```

2. Migrate the change package and look at history

```
History Change Package JWCP1 Row 1 to 2 of 2
Command ===> _____ Scroll ===> PAGE

Date Time Scheme Command RC RSN ID
. 2016/11/09 09:47 MSJW2 MIGRATE 04 00CC JXW
. 2016/11/09 09:41 MSJW2 READY 00 0000 JXW
```

Return code 04

Operation completed, but a warning was issued during processing

Reason code 00CC

All migrate commands ignored

Better support for DFHCSDUP export files

Now...

1. Package an Add command

```
Package          Change Package JWCP1          Row 1 to 1 of 1
Command ===> _____ Scroll ===> PAGE

Filter SAMP     PROGRAM     + P*          $HOMEPLX *
/      Name     Type          ResGroup Prompt  Config  --- Changed ---
CA     SAMP     PROGRAM      PERFORM          $HOMEPLX 2014/08/12 14:28
```

2. Migrate the change package and look at history

```
History          Change Package JWCP1          Row 1 to 2 of 2
Command ===> _____ Scroll ===> PAGE

      Date      Time      Scheme      Command      RC      RSN      ID
. 2016/11/09 10:00 MSJW2  MIGRATE     00      0000     JXW
. 2016/11/09 09:59 MSJW2  READY       00      0000     JXW
```

Return code 00
Operation was successful

Reason code 0000
Outcome was successful

DFHCSDUP audit collection

Problem

- Sometimes, people with a high level of clearance, use DFHCSDUP to make emergency changes to CICS resources. These changes aren't tracked by CICS CM, so there is nowhere where you can see an audit record of both the CICS CM and the DFHCSDUP changes.
- **I need to track all changes to the CSD.**

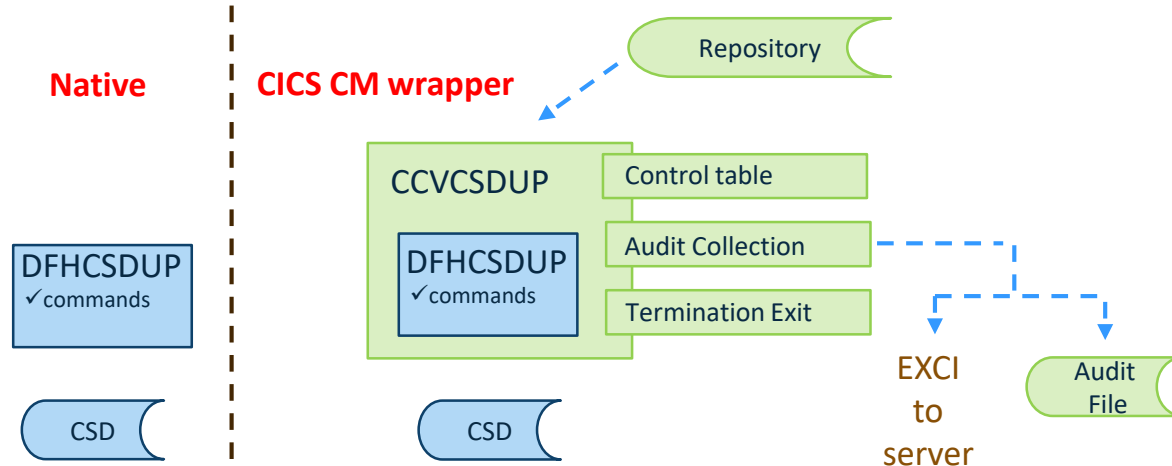
Solution

- Collect DFHCSDUP audit records with no changes to existing interfaces

Value

- Audit trail of all resource definition changes; from CM and DFHCSDUP
- You do not need to change any existing JCL jobs which run DFHCSDUP.

Capture DFHCSDUP changes



1. CICS CM uses a wrapper around DFHCSDUP
2. Control table: identifies repository for auditing requirements
3. Audit collection: methods of EXCI or FILE (DYNAMIC: tries EXCI then FILE)
4. Termination exit: allows audit file post-processing

Summary

CICS Performance Analyzer

- Who can use it, and what it is
- Sample report forms
- Customizable reports
- Wait Analysis and Statistics Alerts
- What's New

CICS Configuration Manager

- Why is it useful
- Resource definition lifecycle management
- Backout + audit compliance
- Deployment analysis
- Cold start analysis
- What's New

Discussion

