Identifying and Deploying your assets for SOA

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ON DEMAND BUSINESS

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Introducing the IBM SOA Foundation

Provides What You Need to Get Started with SOA

*IBM SOA Foundation: Integrated, open set of software, best practice, and patterns*

Supports complete lifecycle with a *modular* approach

IBM SOA Foundation

Software

Assemble

Deploy

Model

Manage

Governance & Processes

Extends value of your existing investments, regardless of vendor

Extensive business and IT standards support; facilitating greater *interoperability & portability*

Scalable; start small and grow as fast as the business requires

Skills & Support
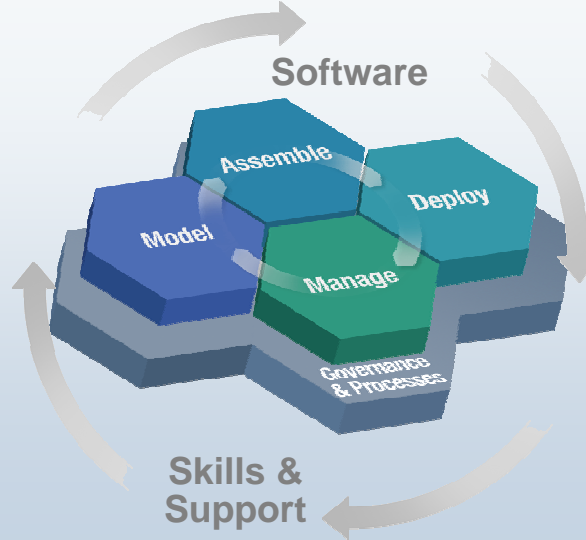
Leveraging existing IT Infrastructure

ORACLE SAP bea **CICS™** **WebSphere** **IMS™** Microsoft ca **Custom Apps.**

IBM

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How are customers thinking technically about flexible IT through SOA?

The SOA Lifecycle

- **Discover**
- **Construct & Test**
- **Compose**

- **Integrate people**
- **Integrate processes**
- **Manage and integrate information**

- **Gather requirements**
- **Model & Simulate**
- **Design**

Assemble

Deploy

Model

Manage

Governance & Processes

- **Financial transparency**
- **Business/IT alignment**
- **Process control**

- **Manage applications & services**
- **Manage identity & compliance**
- **Monitor business metrics**

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SOA Foundation
Part of a broader portfolio to meet your every need

WebSphere Integration Developer™*
Rational Application Developer™*

Z Note: WDz could be used in place of RAD

Process:
WebSphere Process Server™*
WebSphere ESB™* &
WebSphereMessage Broker™*

People:
WebSphere Portal™*
WebSphere Everyplace Deployment™*
Workplace Collaboration Services™*

Information:
CICS Business Event Publisher™ *

Application Infrastructure:
CICS Transaction Server™
IMS™
DB2™
WebSphere Application Server ™&
WebSphere Extended Deployment™*

Assemble

Deploy

Model

Manage

Governance & Processes

WebSphere Business Modeler™*
CICS Interdependency Analyzer™ *

WebSphere Business Monitor™*
Tivoli Composite Application Manager™*
Tivoli Identity & Access Manager™

* New or Enhanced

Transform your CICS applications

Extend and modernize CICS applications efficiently

Improve programmer productivity

Increase customer satisfaction

Enable IT for SOA

CICS Application Modernization Tools

CICS Business Event Publisher for MQSeries®

- Create and manage outbound events using WebSphere MQ without changing existing CICS applications

CICS Interdependency Analyzer

- Understand your active application inventory for efficient maintenance and upgrades

Today's Business Challenges

- **Unconnected infrastructure investments**
  - ►Provide seamless integration with new business units
  - ►Link packaged applications with legacy systems

- **Accelerated costs of managing disparate systems**
  - ►Integrate across heterogeneous islands of automation
  - ►Mitigate people and skill shortages

- **Increased industry and government regulations**
  - ►Such as Sarbanes-Oxley

- **Reaching new markets with critical speed**
  - ►Support new standards like process automation
  - ►Maintain system and asset security

IT projects can take too long and cost too much
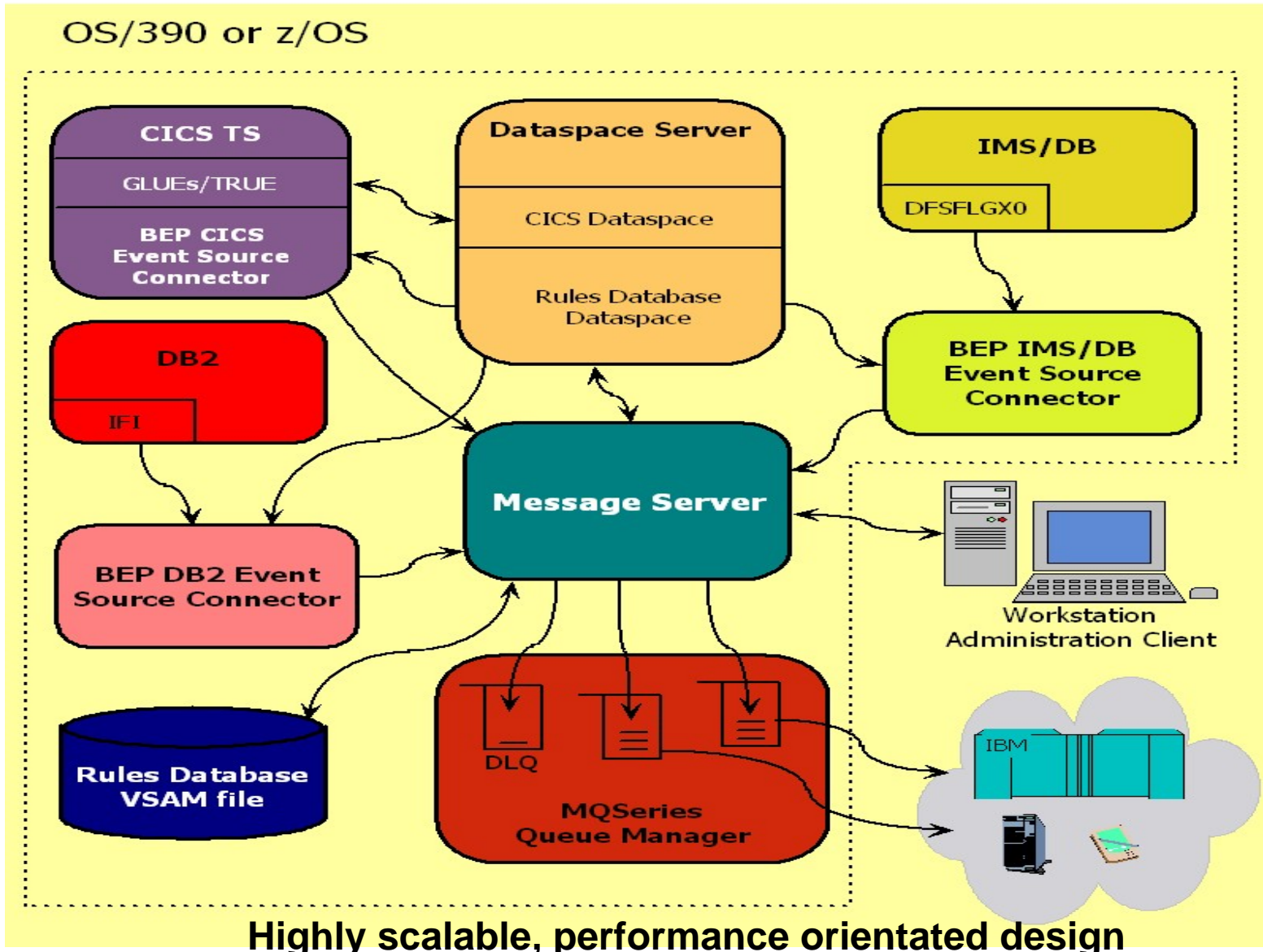*Achieving 'Time to Value' is critical to business success*

What is CICS Business Event Publisher for MQSeries?

- CICS Business Event Publisher for MQSeries (CICS BEP)

    ▶ Creates MQPUT messages for MQSeries queue from events and associated information

    ▶ Based on user-specified message content rules, Queue names and MQPUT options

    ▶ Provides easy to use workstation GUI for selection and rules creation

- Helps integrate legacy applications and data to new environments (CICS, IMS and DB2 events)

    ▶ Real time action and results

    ▶ Offers low cost, low risk integration strategy

- Current version - CICS Business Event Publisher for MQSeries V1.2

    ▶ GA May 2004

CICS BEP V1.2 Architecture

OS/390 or z/OS

- CICS TS
  - GLUEs/TRUE
  - BEP CICS Event Source Connector
- DB2
  - IFI
- BEP DB2 Event Source Connector
- Rules Database VSAM file
- Dataspace Server
  - CICS Dataspace
  - Rules Database Dataspace
- IMS/DB
  - DFSFLGX0
- BEP IMS/DB Event Source Connector
- Message Server
- MQSeries Queue Manager
  - DLQ
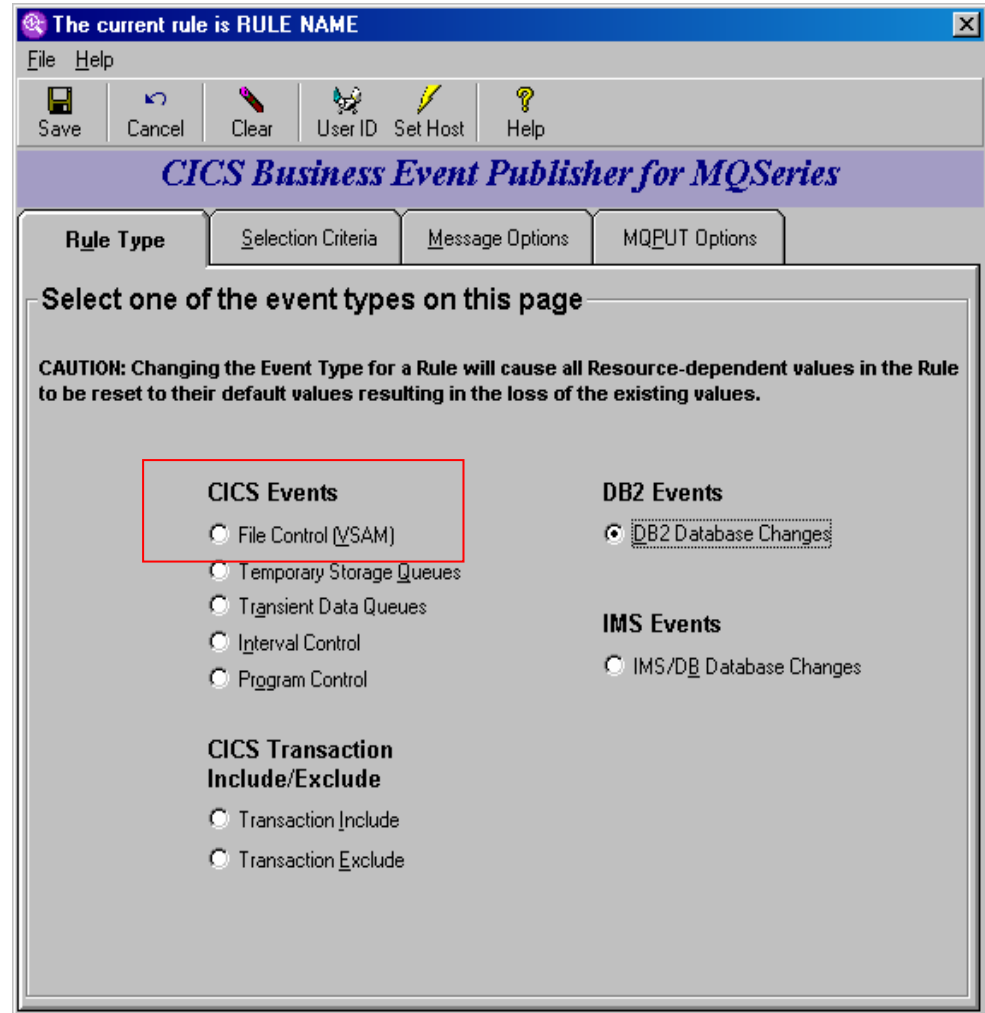- Workstation Administration Client
- IBM

Highly scalable, performance orientated design

CICS BEP Workstation Client

Rule Type Tab

- CICS, DB2 and IMS categories

CICS BEP Workstation Client

Selection Criteria Tab

▪ For CICS events

Advanced Selection Criteria for NEW ORDER ☒

Resource Name `ORDRFILE`   **ResourceType** `File Control (VSAM)`

Current Selection Criteria

And/Or	Field Name/Type	Index	Offset	Length	OP	Compare to

⇑ Move Up   Remove and Edit Message Field

⇓ Move Down   Remove from List

Datamap Fields

Datamap Name: `ORDRFILE`

Level	Field name	Occu...	Type	Picture	Usage	Length
03	ORDER-DATE-SEC		Numeric: zoned	9(2)	Display	2
02	ORDER-ITEMS	10	Group		Display	54
03	ITEM-NUMBER	10	Numeric: zoned	9(8)	Display	8
03	ITEM-QUANTITY	10	Numeric: binary	S9(4)	Binary (CO...	2
03	ITEM-ON-HAND	10	Numeric: binary	S9(8)	Binary (CO...	4
03	ITEM-PRICE	10	Numeric: zoned	9(6)	Display	8

Download Datamap

Remove Datamap from Criteria List

	Field Name	Length	Index	Operator	Compare to Data Type	Compare to
AND						
OR	ITEM-ON-HAND	4	1 ▲▼	EQ ▼	Fullword Number ▼	0

Add to Criteria

Fields by Offset/Length

	Offset	Length	Operator	Compare to Data Type	Compare to
AND					
OR	0 ▲▼	▲▼	▼	▼	

Add to Criteria

☑ Create a message on these conditions:

Conditions Selected `1`

☑ NORMAL
☐ ERROR
☐ CHANGED

Action
`Create Message ▼`

☑ Enable Complex Selection Criteria

OK

Cancel

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The current rule is NEW ORDER

File   Help

| Save | Cancel | Clear | UserID | Set Host | Help |

CICS Business Event Publisher for MQSeries ™

| Rule Type | Selection Criteria | **MQPUT Options** | Message Options | Return Options |

Queue Name

new.orders.queue

Queue Manager Name

Specify Message Descriptor Options (MQMD_*)

Specify Put Message Options (MQPMO_*)

CICS Business Event Publisher – Possible Uses

- Event notification – new customer added, account = zero

- Activity Audits – who, what, when is accessing the file?

- Error notification – create message when error detected

- Threshold notification – stock running low

- Automation – removal of manual activity or latency in business process

- Data source for Message Brokers

- Data transfer

- External logging or notification

Value:

- No change to existing application programs or data

- Extends legacy to new environments

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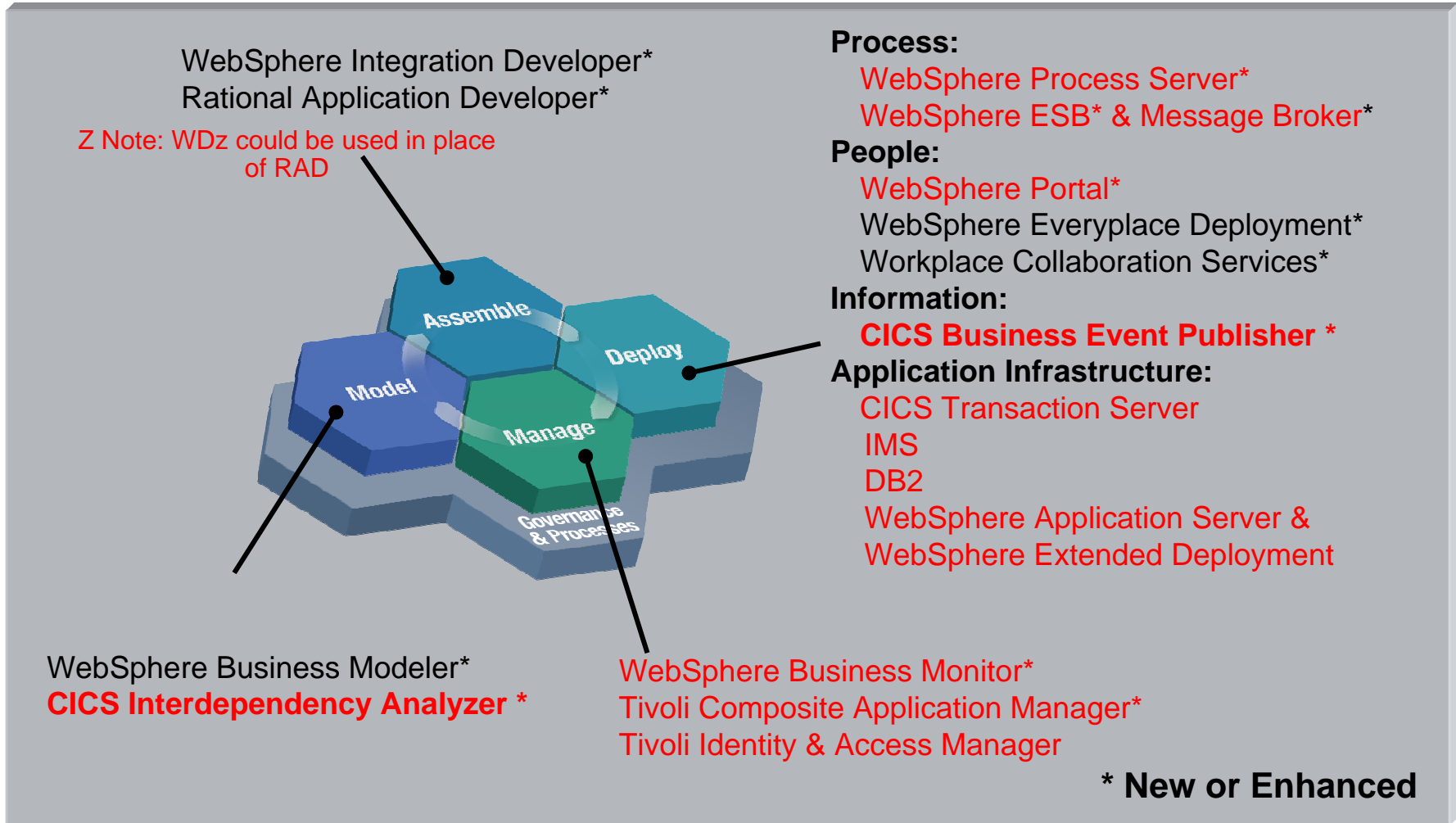
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CICS Interdependency Analyzer

- Understand your active application inventory for efficient maintenance and upgrades

What is CICS Interdependency Analyzer ?

- CICS Interdependency Analyzer for z/OS (CICS IA)
  - ▶ Run-time and batch reporting tool
  - ▶ Captures resource relationships such as
    - what programs have potential affinities due to the CICS API commands within them
    - which resources (Programs, Files, TSQs TDQs etc) are required by a transaction
    - what resources are no longer used
    - which transactions have affinities to other transactions and the type and lifetimes of these affinities
    - the sequencing of transactions within an application
    - which transactions have affinities to particular CICS regions
    - Includes CICS, DB2, WebSphere MQ and IMS DB resources
  - ▶ Relationship data loaded onto a DB2 data base
    - Ad hoc analysis
  - ▶ Loadlib Scanner and VSAM File Reporter
- CICS IA 2.1 GA - November 2005
  - ▶ Product number - 5697-J23

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
- You need to minimize impact of CICS application maintenance for your customers

Potential problems:
- Costly and lengthy manual investigation
- Errors during the application changes
- High application maintenance costs
- …even outages

Information provided by CICS IA can help to:
- Use CICS resources more efficiently
- Split workload for continuous availability
- Improve the speed and reduce cost of application maintenance
- Reduce time of problem resolution
- Minimize the impact of routine application maintenance for the end user
- Gain better understanding of how CICS components can be aggregated to form services for SOA implementations.

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 the 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 in CICS Interdependency Analyzer for z/OS V2.1

- An Eclipse-based graphical user interface and improved query management facilities
  - make it easy for you to access the collected data and use it in the day-to-day analysis.
  - The GUI is based on the XML application programming interface (API), so automated processes can query the database as well.
- ▸ Timer based Collector control,
  - allows the user to start the collector for a given time of day to enable targeted data collection
    - For example, you can set the tool to schedule collection in different regions throughout the data collection process.
  - Helps you to
    - work around high volume time periods
    - target collection for when an application is active.
- ▸ Enhanced single point of control capabilities
  - You can turn data collection for multiple CICS regions on and off with a single CINT command to speed selection.
- A selective program and transaction Exclude list to eliminate extraneous data and reduce overhead during data capture.
- Provision of CSD dataset name and group-list information
- ▸ Automation of tracking of runtime impact on application change by providing program version information, enabling removal of old data by version and comparison of data by program version.
- ▸ Improved installation and customisation, as well as other enhancements

CICS IA - Eclipse-based graphical user interface

CICS IA - Timer based collector control

```
Session C - [24 x 80]                                                    _ 日 ×

CIU280            CICS Interdependency Analyzer for z/OS - V2R1M0    2005/10/18
                          Time and Date Options for                  11:22:27AM
                   CICS Sysid: TSTA     CICS Applid: IYCYZC3A

Modify the options and press Enter to update or F12 to Cancel.

Time and date slots: Y=Yes, N=No or blank=default

Hour of day: 0-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24
             N N N N N N N N N N Y  Y  Y  Y  Y  Y  Y  Y  N  N  N  N  N  N  N

Day of week: Mon   Tue   Wed   Thu   Fri   Sat   Sun
             Y     Y     Y     Y     Y     N     N

Day of month: 1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 20 1 2 3 4 5 6 7 8 9 30 1
              Y N N Y N N Y N N Y  N N Y N N Y N N Y N  N Y N N Y N N Y N N  Y

Month of year: Jan   Feb   Mar   Apr   May   Jun   Jul   Aug   Sep   Oct   Nov   Dec
               Y     Y     Y     Y     Y     Y     Y     Y     Y     Y     Y     N

CICS Sysid:  TSTA    CICS Applid:   IYCYZC3A    TermID:   TC09

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

MA    c                                   ⇑                               10/016
```

CICS IA - ISPF Customization

```
A - mvs2e
File  Edit  View  Communication  Actions  Window  Help

*************** CICS Interdependency Analyzer for z/OS - V2R1M0 ***************
Command ===> _____
                                                            More:        +

Press ENTER to proceed, PF3 to exit or PF1 for Help
Press PF8 to Scroll Down, PF7 to Scroll Up

Please update the following:

Output Datasets:

OUTPUT DSN FOR SCIUSAMP  : JAMESE.D397.SCIUSAMP.OUT7_____
OUTPUT DSN FOR SCIUCLIS  : JAMESE.D397.SCIUCLIS.OUT7_____
OUTPUT DSN FOR SCIUSQL   : JAMESE.D397.SCIUSQL.OUT7_____
OUTPUT DSN FOR SCIUDAT1  : JAMESE.D397.SCIUDAT1.OUT7_____
OUTPUT DSN FOR SCIUDAT1  : JAMESE.D397.SCIUDAT2.OUT7_____
OUTPUT DEVICE TYPE       : SYSDA_

CICS IA variables:

IA PRODUCT QUALIFIER     : JAMESE.TESTV2
IA VSAM FILE QUALIFIER   : JAMESE.CICS_____

DB2 variables:

DB2 QUALIFIER            : SYS2.DB2.V710_____
DB2 RUNLIB.LOAD HLQ      : DSN7102E_____
DB2 PROCLIB QUALIFIER    : DSN7102E_____
DB2 SUB SYSTEM           : DSNE
DB2 TABLE QUALIFIER      : JAMESE___
DB2 TABLE OWNER          : JAMESE___
DB2 DASD VOLUME          : SYSDA_

MA     a                                                         12/029
Connected to remote server/host WINMVS2E.HURSLEY.IBM.COM using lu/pool IYCYTC18 and port 23        gbhurl89 3240/02/A on PSM:
```

CICS IA - ISPF Customization

```
A - mvs2e
File  Edit  View  Communication  Actions  Window  Help
```

```
*************** CICS Interdependency Analyzer for z/OS - V2R1M0 ***************
Command ===> _____
                                                              More:    -  +

CICS variables:

CICS VERSION               : V220
CICS QUALIFIER             : CTS230.CICS630_____
CICS CSD FILE NAME         : CICSTLS.CICST304.DFHCSD_____
CICS CSD LIST NAME         : TLSLIST_
RLSACCESS FOR VSAM FILES : YES
LSRPOOLID FOR VSAM FILES : NONE
CICS FILE OWNING REGION    : TEST

Migartion Variables:

PREVIOUS IA QUALIFIER      : JAMESE_____
NEW IA QUALIFIER           : JAMESE_____
OLD DB2 TABLE QUALIFIER    : JAMESE___
NEW DB2 TABLE QUALIFIER    : JAMESE___

General variables:

ASSEMBLER PROGRAM          : ASMA90
LE QUALIFIER               : PP.ADLE370.ZOS140_____

JOBCARD HEADER:
//_CIUJOB_  JOB USER=JAMESE,NOTIFY=JAMESE,_____
//           CLASS=A,MSGCLASS=Y,REGION=0M_____
//*_____
//*_____

MA  a                                                          04/029
Connected to remote server/host WINMVS2E.HURSLEY.IBM.COM using lu/pool IYCYTC18 and port 23    gbhurl89 3240/02/A on PSM:
```

Why use CICS IA?

- Helps you understand your active Application Inventory
  - ▶ Documentation lost or incomplete
  - ▶ Time pressure
  - ▶ Merger / Acquisition

- Helps you maintain or enhance Applications
  - ▶ Identifies the resources that are affected directly and indirectly
    - Transactions, programs, data elements:
      - – Files , Queues , Screens, ...
  - ▶ Helps formulate the request for change
    - What to change, what to build, what to test, what needs to be communicated to roles involved
  - ▶ Looks across boundaries, including through shared data - files, databases or queues

- Need to balance CICS work across regions for greater availability?
  - ▶ CICS IA helps quickly identify resource relationships which need to be changed to enable transactions run anywhere
  - ▶ CICS IA helps quickly clone regions

- Version to version migration assistance
  - ▶ Build a database of application topology knowledge to reference throughout the migration process
  - ▶ Make applications threadsafe
    - CICS IA provides information needed to understand which applications conform to threadsafe standards
  - ▶ Identify OS/VS COBOL™ programs
    - LE enabled?

- CICSplex SM™ enablement
  - CICS IA identifies system and transaction affinities

CICS IA Overview - 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   Tran Program   Resource Resource
 Regn                 Type     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
```

Why use CICS IA in SOA projects

- Help migrate to CICS TS V3.1 – the platform for CICS-based SOA projects
  - ▸ Prepare for migration: prioritize and optimize
    - Application understanding (resources needed to by a particular application)
  - ▸ Improve speed of migration
    - Migrate through Test, Quality Assurance regions and into production faster
      - CICS Interdependency Analyzer information as input into CICS CM and as a way of comparing your current CICS region contents with the new V3.1 regions
- Identify candidate applications for new function exploitation
  - ▸ Make applications thread safe
    - Can you run your programs on Multiple TCBs?
  - ▸ Identify OS/VS COBOL programs
    - Are your programs LE enabled?
  - ▸ Provide detailed information to help create web services

Why use CICS IA in SOA projects

- **What is a 'threadsafe' program ?**

    - A threadsafe program
        - Must be written to threadsafe standards.
        - Must use appropriate serialization techniques when accessing any **shared resources**.
        - Must be Language Environment-conforming or assembler programs.
        - Capable of executing concurrently on multiple TCBs
        - Cannot rely on QR to serialize access to **shared resources** and storage.
            - Use serialization techniques
                - Compare and swap
                - Enqueue/Dequeue
            - All programs accessing a shared resource must be threadsafe.

Why use CICS IA in SOA projects

What are the shared resources ?

•Typical examples of shared resources are the CICS CWA, global user exit global work areas and storage acquired explicitly by the application program with the shared option.

•You can check whether your application programs use these types of shared storage by looking for occurrences of the following EXEC CICS commands:

  •ADDRESS CWA
  •EXTRACT EXIT GASET
  •GETMAIN SHARED
  •LOAD

▪CICS IA collects and records this information

Why use CICS IA in SOA projects

How can CICS IA help ?

CICS IA collects resource information on the previously mentioned resources. This data is stored in the DB2 database tables and can be queried using SQL. For example :-

- Show me all programs which execute an 'ADDRESS CWA' command.
  - SELECT PROGRAM OBJECT FROM CIU3_CICS_DATA WHERE FUNCTION='ADDRESS';

- Or

- Show me all transactions and programs that use **shared resources**

  - SELECT TRANSID , PROGRAM , FUNCTION, OBJECT
  FROM CIU3_CICS_DATA WHERE
  FUNCTION IN ('LOAD   ', 'EXTRACT ', 'GETMAIN ', 'ADDRESS ');

Why use CICS IA in SOA projects

```
TRANSID   PROGRAM    FUNCTION   OBJECT
---------+---------+---------+---------+--
VA90      EQZ1RCV    LOAD       EQZTSCT
VA90      EQZ1REL    LOAD       EQZTSCT
VA90      EQZ1SET    LOAD       EQZTSCT
V220      EQZ1IDEN   LOAD       EQZTSCT
V220      EQZ1IPGV   LOAD       EQZTSCT
V220      EQZ1MONS   LOAD       EQZTSCT
V220      EQZ1RCV    LOAD       EQZTSCT
V220      EQZ1REL    LOAD       EQZTSCT
V895      CAMA895C   LOAD       CAMTACTH
V895      CAMA895C   LOAD       CAMTAPTH
V895      CAMA895C   LOAD       CAMTAXTH
V200      EQZ1SWCH   LOAD       EQZTSCT
V800      CAMA800C   LOAD       EZPSCCIL
V800      EZPACTLC   GETMAIN    ADDR
V800      EZPACTLC   LOAD       CAMLICIL
V800      EZPACTLC   LOAD       CAMLMTSL
V800      EZPACTLC   LOAD       CAMNL01L
V800      EZPACTLC   LOAD       EZPLD01L
V800      EZPACTLC   LOAD       EZPNL01L
V800      EZPACTLC   LOAD       EZPSLNGL
TST4      EMSTEST4   ADDRESS    CWA
```

Why use CICS IA in SOA projects

What else can CICS IA do ?

CICS IA reports the current TCB mode for each EXEC CICS (or DB2,MQ,DLI)call.

```
Tran   Program  Offset     Command            Resource
---------------------------------------------------------------------------------
                Sysid      Usage  First Run              Last Run              Term  TCBmode
---------------------------------------------------------------------------------
 TS01  TS010001 00000366   READQ TSQUEUE       TS1A+TE+
                ----           33  2004-12-21 17.43.59  2004-12-21 17.44.14     Y      QR

                000004D0   READQ TSQUEUE       TS1M+TE+
                ----           33  2004-12-21 17.43.59  2004-12-21 17.44.14     Y      QR

                000007C4   WRITEQ TSQUEUE      TS1A+TE+
                ----          320  2004-12-21 17.43.59  2004-12-21 17.44.15     Y      QR

                0000088C   WRITEQ TSQUEUE      TS1M+TE+
                ----          320  2004-12-21 17.43.59  2004-12-21 17.44.15     Y      QR
```

How can CICS IA assist with migration to CICS TS 3.1?

What else can CICS IA do ?

You could also use the list of API calls that are not threadsafe and query the DB2 table to identify programs that use these calls.

You can also use the CIULMS scanner to detect possible commands by populating the DB2 table CIU3_SCAN_DETAIL. Then use the following query :
-
  SELECT DSNAME, PROGRAM, COMMAND, RESOURCE_TYPE
  FROM CIU3_SCAN_DETAIL
  WHERE COMMAND IN ('LOAD   ', 'EXTRACT ', 'GETMAIN ', 'ADDRESS ');

How can CICS IA assist with migration to CICS TS 3.1?

```
Sample output -
--------+--------+--------+--------+--------+--------+--------+--------+
DSNAME                                PROGRAM   COMMAND   RESOURCE_TYPE
--------+--------+--------+--------+--------+--------+--------+--------+
CIU.TEST.LOADLIB                      EMSPLT    EXTRACT   EXIT
CIU.TEST.LOADLIB                      EMSTERM   EXTRACT   EXIT
CIU.TEST.LOADLIB                      EMSTESTS  ADDRESS   CWA
CIU.TEST.LOADLIB                      EMSTEST4  ADDRESS   CWA
CIU.TEST.LOADLIB                      EMS1XT13  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS1XT22  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS1XT23  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS2XT13  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS2XT22  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS2XT23  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS3XT13  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS3XT22  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS3XT23  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS4XT13  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS4XT22  GETMAIN   SHARED
CIU.TEST.LOADLIB                      EMS4XT23  GETMAIN   SHARED
CIU.TEST.LOADLIB                      OIUA300C  LOAD      PROGRAM
PTF.V2R1M0.SEZPLOAD                   CAMAA00C  LOAD      PROGRAM
```

How can CICS IA assist with migration to CICS TS 3.1?

- **<u>Is your program LE enabled ?</u>**

  - The CICS IA scanner now tells you whether your COBOL or PLI programs are LE enabled.
  - You can use the summary report produced by the scanner

```
Module      Module    Module       Language   Possible statements.................  Comment
Name        Length    Language     Version    Affinities   Dependencies  MVS POSTs
--------    --------  ----------   --------    ----------   ------------  --------   ---------
CAMAA00C    000086F0  COBOL II     LE              15           30           0
CAMAA10C    0000B780  COBOL II     LE              19           46           0
CAMATRCC    00004460  ASSEMBLER                    16           22           0
```

  - Or you can query the CIU3_SCAN_SUMMARY table :-
    - SELECT * FROM CIU3_SCAN_SUMMARY
      WHERE LANGUAGE='COBOL' AND LE NOT='LE';

CICS Interdependency Analyzer – help with Sarbanes-Oxley Compliance

- Perform internal auditing across the CICS enterprise

- Help document CICS TS programs to achieve SOX compliance

- Be adopted quickly for SOX compliance

- Leverage other CICS TS; DB2 an/or IMS based compliance initiatives to reduce cost of SOX compliance

- ▶ CICS IA reports on all resources (CICS programs; VSAM, DB2, IMS files; etc.) that occur within the CICS TS enterprise

- ▶ CICS IA information is stored in a DB2 table (defined during CICS IA installation)

- ▶ Users can quickly produce ad-hoc SQL reports (using the CICS IA DB2 table as input) for documentation

Summary

- We've looked at 2 CICS tools, which :
  - ▶ Assist with enabling SOA and SOAP
  - ▶ Assist with Sarbanes-Oxley Compliance
  - ▶ Assist with LE Enablement
  - ▶ Improve programmer productivity
  - ▶ Understand the complexities within your system
  - ▶ Identify performance issues within your system
  - ▶ Extend your CICS apps to new environments

More Information

- ▶ CICS tools web site , including library (user guides, manuals)
  - www.ibm.com/software/htp/cics/tools