Actioning real time business events

CICS and WebSphere

Speaker: Edward McCarthy

Trademarks

The following are trademarks of the International Business Machines Corporation in the United States, other countries, or both.

Not all common law marks used by IBM are listed on this page. Failure of a mark to appear does not mean that IBM does not use the mark nor does it mean that the product is not actively marketed or is not significant within its relevant market.

Those trademarks followed by ® are registered trademarks of IBM in the United States; all others are trademarks or common law marks of IBM in the United States.

For a complete list of IBM Trademarks, see www.ibm.com/legal/copytrade.shtml:

*, AS/400®, e business(logo)®, DBE, ESCO, eServer, FICON, IBM®, IBM (logo)®, iSeries®, MVS, OS/390®, pSeries®, RS/6000®, S/30, VM/ESA®, VSE/ESA, WebSphere®, xSeries®, z/OS®, zSeries®, z/VM®, System i, System i5, System p, System p5, System x, System z, System z9®, BladeCenter®

The following are trademarks or registered trademarks of other companies.

Adobe, the Adobe logo, PostScript, and the PostScript logo are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States, and/or other countries.
Cell Broadband Engine is a trademark of Sony Computer Entertainment, Inc. in the United States, other countries, or both and is used under license therefrom.
Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.
Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.
Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
UNIX is a registered trademark of The Open Group in the United States and other countries.
Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.
ITIL is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office.
IT Infrastructure Library is a registered trademark of the Central Computer and Telecommunications Agency, which is now part of the Office of Government Commerce.

* All other products may be trademarks or registered trademarks of their respective companies.

Notes:
Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput improvements equivalent to the performance ratios stated here.
IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.
All customer examples cited or described in this presentation are presented as illustrations of the manner in which some customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics will vary depending on individual customer configurations and conditions.
This publication was produced in the United States. IBM may not offer the products, services or features discussed in this document in other countries, and the information may be subject to change without notice. Consult your local IBM business contact for information on the product or services available in your area.
All statements regarding IBM's future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.
Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility, or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.
Prices subject to change without notice. Contact your IBM representative or Business Partner for the most current pricing in your geography.

Agenda

- Events

- CICS and Events

- WebSphere Business Events

- WebSphere Process Server

- Demo

Events

- Most applications written to perform some business function
  - Many written long ago
- Each day these applications implicitly make business decisions
  - e.g. transfer cash to an account
  - These actions considered to be "events"
    - i.e. something that has happened
- Potentially a lot of business value
  - e.g. detect stock item running low, order new stock
- Business want to be able collect and analyse these "events"
  - They would like to add functionality to existing applications to generate "events"
- The catch?
  - Expensive to add new code to existing applications so that "events" are produced
  - Takes a long time

CICS and Events

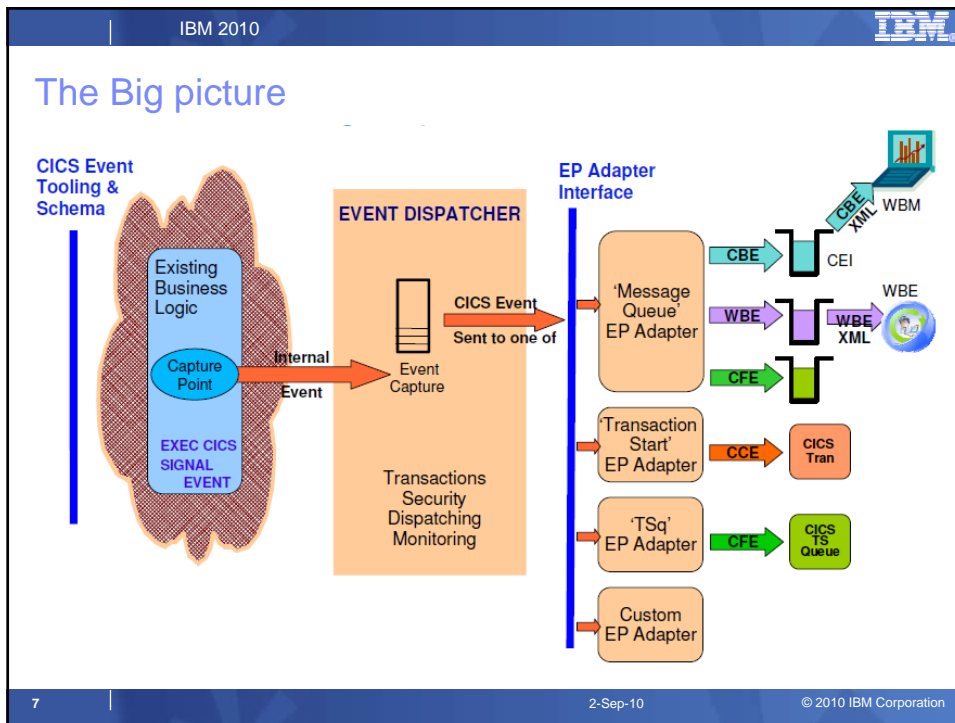- Many customers worldwide
  - Running business applications in CICS
- CICS TS V4.1 provides event technology
  - In two ways…
- Non-intrusive
  - You can define specifications which CICS uses to detect some occurrence and then generate an event
  - No changes to applications required !
  - Allows you to get started straight away
- Programmatically
  - Option does exist to modify application code
    - To add CICS API call to generate Events

System z capital waiting to be integrated and leveraged
Re-use with End-to-End Process Automation and Management

- *$5T of core System z applications with estimated replacement costs of $20T [3]*

- *70% [1] of corporate data is stored on the mainframes*

- *System z has been estimated to contain $3 Trillion [2] (USD) in core assets*

- *CICS handles more than 30 billion transactions/day [3] valued at over $1 trillion/week [3]*

- *Mainframe can handle sustained peak workload utilization of 100% without service level degradation*

- *DB2 has delivered 100% availability of customer information for 10 consecutive years, including migrations [5]*

- *Mainframe can handle 9,000 transactions per second operating on more than more than 380 million accounts [4]*

- *Scalable & high performing connectivity with WebSphere MQ for z/OS processing over 213M messages per day on z/OS in the banking industry alone*

- *Over 15 Million GBs of Production data managed by IMS with over 50 Billion Trans/day and over 200 Million Users/day*

The Big picture

CICS Event Tooling & Schema

EVENT DISPATCHER

Existing Business Logic

Capture Point

Internal Event

EXEC CICS SIGNAL EVENT

Event Capture

CICS Event Sent to one of

Transactions
Security
Dispatching
Monitoring

EP Adapter Interface

'Message Queue' EP Adapter

CBE — CEI

CBE XML WBM

WBE — WBE XML

CFE

'Transaction Start' EP Adapter — CCE — CICS Tran

'TSq' EP Adapter — CFE — CICS TS Queue

Custom EP Adapter

7 2-Sep-10 © 2010 IBM Corporation

CICS Explorer

- "The" tool for CICS administration
  - Eclipse based
  - Used to:
    - Define definitions required to generate events
    - Deploy and manage

IBM CICS Explorer

Explorer Edit Operations Administration RTA WLM Window Help

CICSple   CICSple   Bundle   Event P   Captur   Bundles   InsufficientStock.evbind   Capture Specification (In

Server: REDC   CNX0211I Context: EPRED2. Resource: EVCSPEC. 2 records colle   Capture Specification (InsufficientStock)

EPRED (7/10)
  EPREDW (EPREDW)
  EPRED1 (EPRED1)
  EPRED2 (EPRED2)
  EPRED3 (EPRED3)
  EPRED4
  EPRED5
  EPRED6
  EPRED7 (EPRED7)
  EPRED8 (EPRED8)
  EPRED9 (EPRED9)

Capture Specification:

Region	Capture Specification	Event Binding
EPRED2	InsufficientStock	InsufficientStock
EPRED2	OrderSuccess	SuccessfulOrder

Attributes

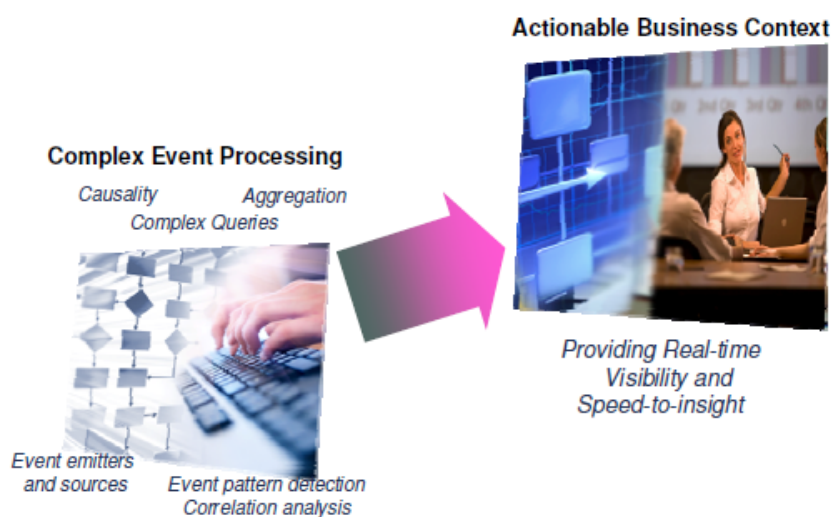| Property	Value
Basic	
Capture Point	LINK_PROGRAM
Capture Specification	InsufficientStock
Capture Type	POSTCOMMAND
CICS Release	E660
Event Binding	InsufficientStock
Event Name	Event_FailedOrder
Events Captured	0
Region	EPRED2

8 2-Sep-10 © 2010 IBM Corporation

4

A plethora of events

- The good news?
  - Able to easily have CICS TS V4.1 generate useful business related events
- The bad news?
  - Could have lots of these events generated
  - How to perform complex analysis of events to detect something significant?
  - Could write your own…
- Could your code handle this business requirement:
  - Customer get three quotes for different types of insurance
  - But they only purchase one
  - Detect this and send letter offering deal if they buy all three

- But of course IBM has just the product…

WebSphere Business Events

Actionable Business Context

Complex Event Processing

Causality   Aggregation
Complex Queries

*Providing Real-time
Visibility and
Speed-to-insight*

Event emitters
and sources   Event pattern detection
Correlation analysis

WBE – correlate and analyse events from any source

GUI environment to develop event handling flows

Event processing logic using drop-down, point & click

With building blocks defined, Business takes over

6
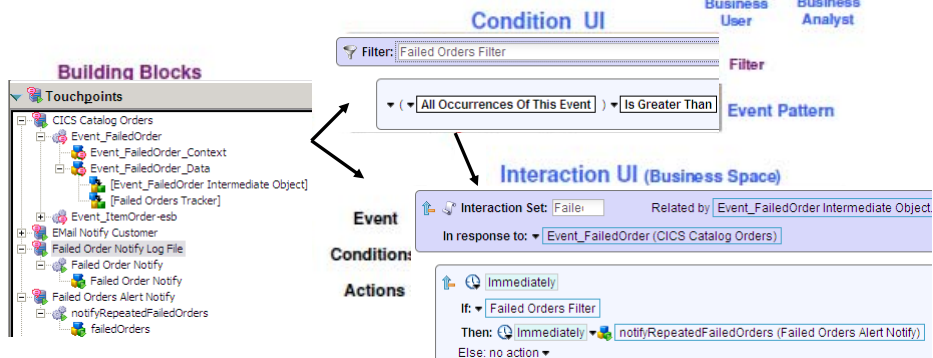
WebSphere Process Server

- Key part of the Business Process Management IBM product range
- Provides an environment able to execute, manage and control business processes
  - e.g. the process a company uses to give a customer a new credit card
- Used to implement Service-Oriented Architecture (SOA)

Execute with speed and efficiency
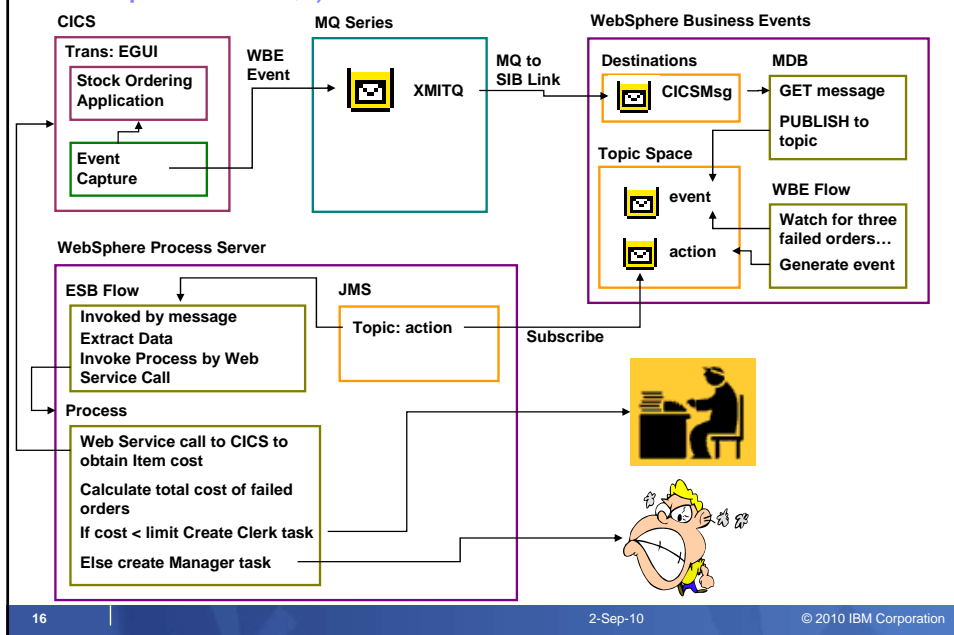*With SOA, leverage existing assets and achieve greater flexibility*

Loan Process — Get Customer Information, Fraud Check, Credit Rating, Approval, Additional Services

Legacy Systems · Human Tasks · Java App · State Machines · Packaged Apps
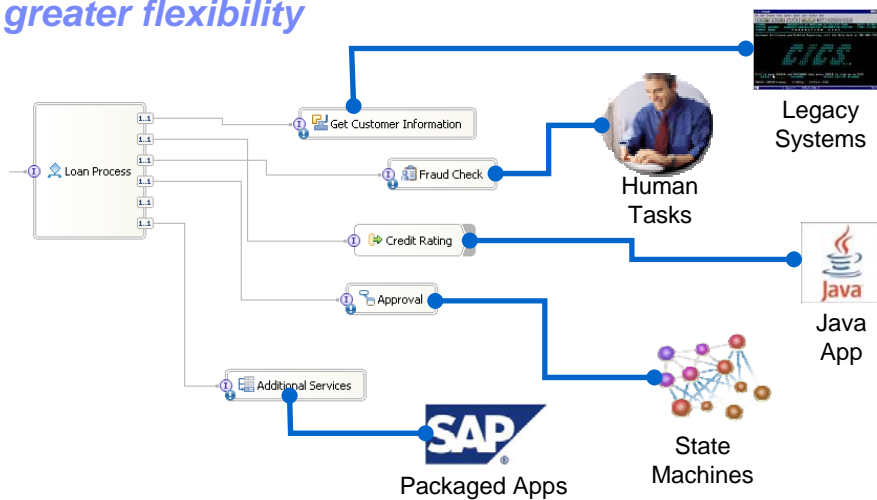
Aim of demo

- Demo to show integration of the products we've been describing
  - To prove that it can be done ☺
- But the bigger picture is:
  - If your role in your site is:
    - CICS Systems Programmer
    - Developer for applications running in CICS
  - Are you considering the role CICS plays in your site?
  - Are there discussions in your site to replace CICS applications?
    - With "new" technology?
  - Is CICS considered "relevant" by senior management?
  - Are you promoting the capability of CICS within your organisation?

- Message to take home with you:
  - CICS Event technology allows you – "The CICS person" – to provide a new source of information to your business
    - Which can be used to improve how your company works
    - Could help your company to increase revenue

A simple demo ;-)

CICS

Trans: EGUI
Stock Ordering Application

Event Capture

WBE Event

MQ Series
XMITQ

MQ to SIB Link

WebSphere Business Events

Destinations
CICSMsg

MDB
GET message
PUBLISH to topic

Topic Space
event
action

WBE Flow
Watch for three failed orders…
Generate event

WebSphere Process Server

ESB Flow
Invoked by message
Extract Data
Invoke Process by Web Service Call

JMS
Topic: action

Subscribe

Process
Web Service call to CICS to obtain Item cost
Calculate total cost of failed orders
If cost < limit Create Clerk task
Else create Manager task

8

z/OS – still going strong

- CICS
  - If your already a CICS customer
    - You know about z/OS reliability
- IBM 100% committed to z/OS
  - WBE and WPS available on z/OS
    - Same product code base as used on distributed
- If you are already operating a z/OS environment
  - Then adding WBE and WPS to that environment makes good sense
  - The more you use z/OS for…
    - The better the IBM deal

- Many Asia/Pacific countries
  - Have z/OS
  - But not running parallel sysplex

- Why Parallel Sysplex?
  - Take advantage of the high availability this provides for your business
  - WebSphere co-located with the business applications and data provides best performance

2-Sep-10   © 2010 IBM Corporation

Actionable Real-time Insights from critical business events
Capture mainframe event sources for business event processing, and take action!

CICS Event Sources

What's Happening   **When to Act**

Detect fraud and take action
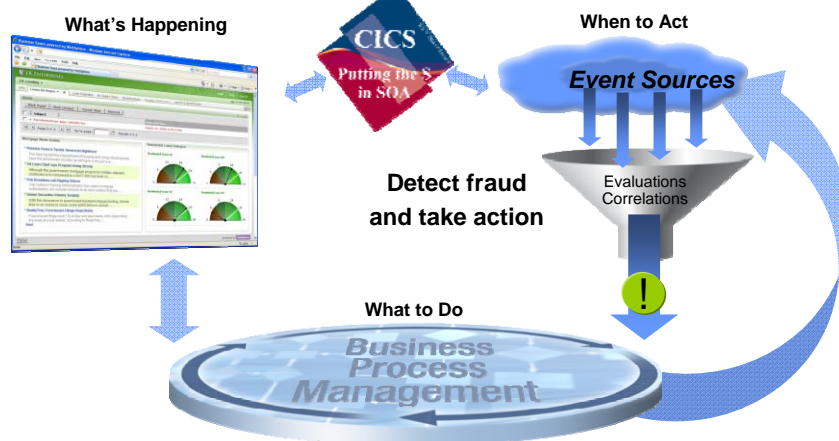
What to Do

Know What's Happening, When to Act, and What to Do

2-Sep-10   © 2010 IBM Corporation

9

Summary

- CICS
  - IBM continuing to enhance products capability
    - To meet customers requirements
  - Event technology
    - Allows customers to "mine" their applications in real time
      - Without having to change any code
- WebSphere Business Events
  - Able to intelligently perform simple to complex analysis of events
- WebSphere Process Server
  - Used to manage long running business processes
  - Can be integrated with WBE and CICS

- New Redbook
  - **Leveraging CICS Events with an ESB**
  - http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/sg247863.html?Open
- http://www.mainframezone.com/cics-spotlight/the-cost-of-running-event-processing-in-cics-ts-v4.11/P1

2-Sep-10

Questions

2-Sep-10