

IBM System z Technology Summit



Revitalizing business with CICS



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Abstract

- **CICS is better positioned now than ever before for participation in modern Web 2.0 architectures and development models. In this session learn how mashups using Atom feeds or RESTful APIs can be used to integrate corporate operational data from CICS customer applications along with public information from sources like electoral rolls, crime statistics, maps, weather and other third-party information. Today's CICS event technology enables CICS to feed event processing engines and business dashboards, without the need for application change. This allows line of business management to react swiftly and effectively, creating business dashboards that highlight changes as they occur. When combined with the power of pattern recognition or rule compliance, end-to-end processes can be constructed to ensure out-of-line situations or information that has "just happened" to be reported. Revitalize and energize your business with modern CICS components.**

Agenda for Revitalizing Business

- **Expanded Service Enablement in CICS TS V4**
- **Scenarios for a revitalized business**
- **How some of the scenarios can be achieved**
- **Summary**

A revitalized business



Introduction and scenarios

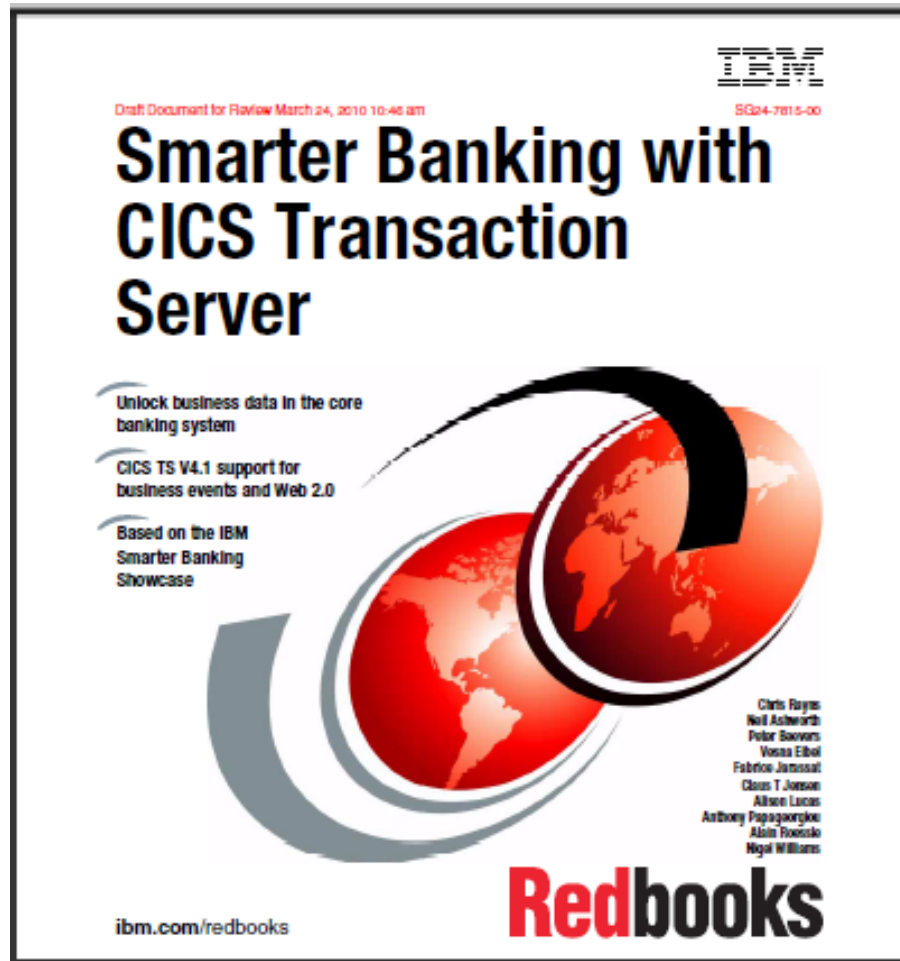


Banking Scenarios

- **Welcome to the Revitalized Bank**



Scenarios based on *Smarter Banking with CICS* Redbook



available now at

<http://www.redbooks.ibm.com/abstracts/sg247815.html>

Before being revitalized

- **Bank was losing market share**
- **Market research showed customers were looking for more service options, such as**
 - 24x7 real time banking with ad hoc and scheduled bill payments
 - Ability to manage securities from multiple institutions from one location
 - Banking options that can be accessed from smart phones
- **The bank wanted to simplify their IT infrastructure**
 - Enhance effectiveness of system and application programmers

The revitalized bank

- **Revitalized its business**
 - Greater customer care and insight
 - Providing customers with consumable information
 - Better risk management
- **Revitalized its applications**
 - Access to multiple accounts and branches
 - Increased agility and productivity
- **Revitalized its infrastructure**
 - Modernized and simplified
 - Greater flexibility and enhanced management
 - Robust, scalable, secure basis for an integrated user experience

Customer care and insight

▪ Account overdraft protection

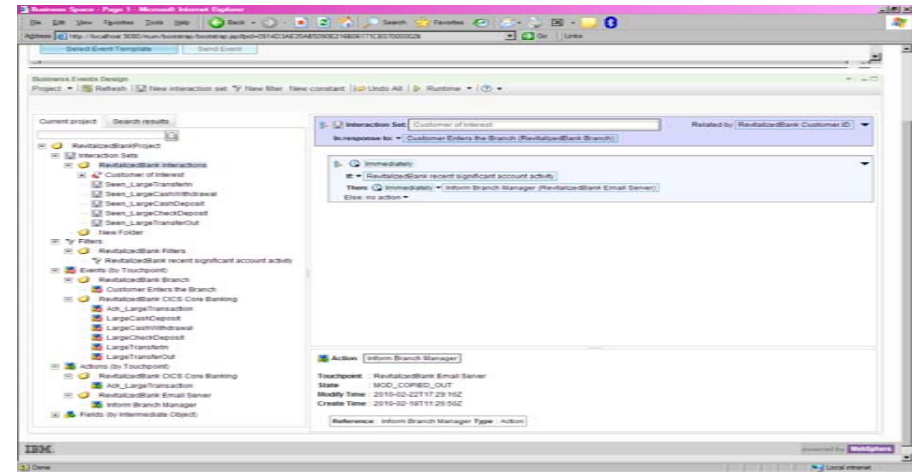
- Inform customers when account is about to go overdrawn, giving them a chance to top up the account and avoid charges
- Needs to be in near real-time (at the end of the day would be no good)
- Event-based solution

▪ Customers of interest

- Encourage customers to perform transactions without visiting branch
- Policy for branch manager to greet high-value customers
- Follow-up on unfinished business e.g. outstanding mortgage request

▪ Customer care

- Customer begins a transaction e.g. loan request, but does not complete, could indicate customer satisfaction is at risk



Consumable account information

- **Provide account transaction data in consumable form, helping customer to**
 - Find out about recent transactions on account
 - Budget across accounts using a budgeting application
 - Discover location of nearest ATM
 - Correlate transactions with locations where they occurred, potentially highlighting fraudulent situations



Notification for corporate payments



- **Falls within Payments and Securities domain**
 - Need to differentiate via cash management and complex derivative products
- **Provide real-time updates to corporate banking (and private banking) customers over mobile channel**
- **Many corporate customers require real-time updates on accounts, especially at month-end**
- **Surface events in a secure way to mobile devices**
 - Offer differentiated payment services to customers who need up-to-the-minute information to control company cashflow and liquidity
 - Event-based solution avoids application change and offers common approach across disparate systems

Market risk management

- **Provide risk management dashboards with horizontal integration of 3 classic risk types**
 - Financial
 - Operational
 - Criminal
- **Enables floor traders to**
 - Set sharper equity prices
 - Avoid overly risky trade transactions
- **Risk-related data feeds and integration in a risk dashboard**

Item	Description	Cost	Stock	On Order
0000	Ball Pen Black 24pk	2.90	0	0
0000	Ball Pen Blue 24pk	2.90	0	0
0010	Ball Pen Red 24pk	2.90	106	0
0040	Ball Pen Green 24pk	2.90	80	0
0050	Pencil with eraser 12pk	1.78	83	0
0080	Highlighter Assorted 5pk	2.88	0	20
0090	Laser Paper 20-lb 100 Bright 2500ream	7.88	18	0
0080	Laser Paper 20-lb 108 Bright 2500 case	33.54	25	0
0090	Blue Laser Paper 20lb 500ream	5.35	22	0
0100	Green Laser Paper 20lb 500ream	5.35	3	20
0110	IBM Network Printer 24 - Laser color	189.98	0	0
0120	Sticker Paper 70 Sheet 8 1/2 x 11 1/2	25.98	0	0
0110	Wall Planner Erasable 36x24	18.85	3	0
0140	70 Sheet Hard Back wire bound notepad	5.89	84	0
0150	Sticky Notes 3x3 Assorted Colors 5pk	5.35	36	45

Thank you for shopping with the Big Blue Pen Company.
More
Date

Detect check kiting



▪ “Check kiting”

- Use of non-existent funds to get an interest-free unauthorized bank loan or temporarily inflate account balance (e.g. to improve chances of getting a loan)
- Example:
 - Deposit check in Bank 1 from an account at Bank 2. Before the check is collected (clears), write a check from Bank 1 to deposit at Bank 2 to cover the first deposit. Rinse and repeat.
- Detection requires cross-bank visibility and horizontal integration
 - Could be achieved using standardized event processing
 - Scan for parallel (otherwise uncovered) checks and take appropriate action

Accounts in multiple banks



- **Trend towards customers having multiple accounts in different banks**
 - How can customers see all their accounts in one consolidated view?
 - How can our Revitalized Bank be seen as the customer's primary bank?
- **Multi-account mashup provided by the Revitalized Bank**
 - Both the provider of account information and on-the-glass integrator
 - Uses account information feeds, which can then also be used in other ways
- **Use feeds of transaction data from an account, and of location data of payment terminals**



Achieving the revitalized business



**What was used to achieve the scenarios,
and what's going on inside?**



Revitalizing your business with new CICS capabilities

- **Business Events, ATOM, Dynamic Scripting support**
 - CICS TS V4.1 provides business events, Dynamic Scripting Feature Pack, and ATOM feed support
 - With tasters for V3 via SupportPacs
- **Allow rapid, flexible development of business solutions**
 - Simple, or no, programming
 - Modern interaction styles
- **Enable greater alignment between Business and IT**
 - IT organisation better able to more rapidly meet needs of the business
 - Can also put capabilities in the hands of business users

Customer care and insight: CICS event processing support

Customer care – customers of interest scenario

- **Business Need**

- Track every corebanking transaction exceeding \$5000
- Be informed when a customer who has performed 5 or more large transactions visits the branch

- **Achieved by**

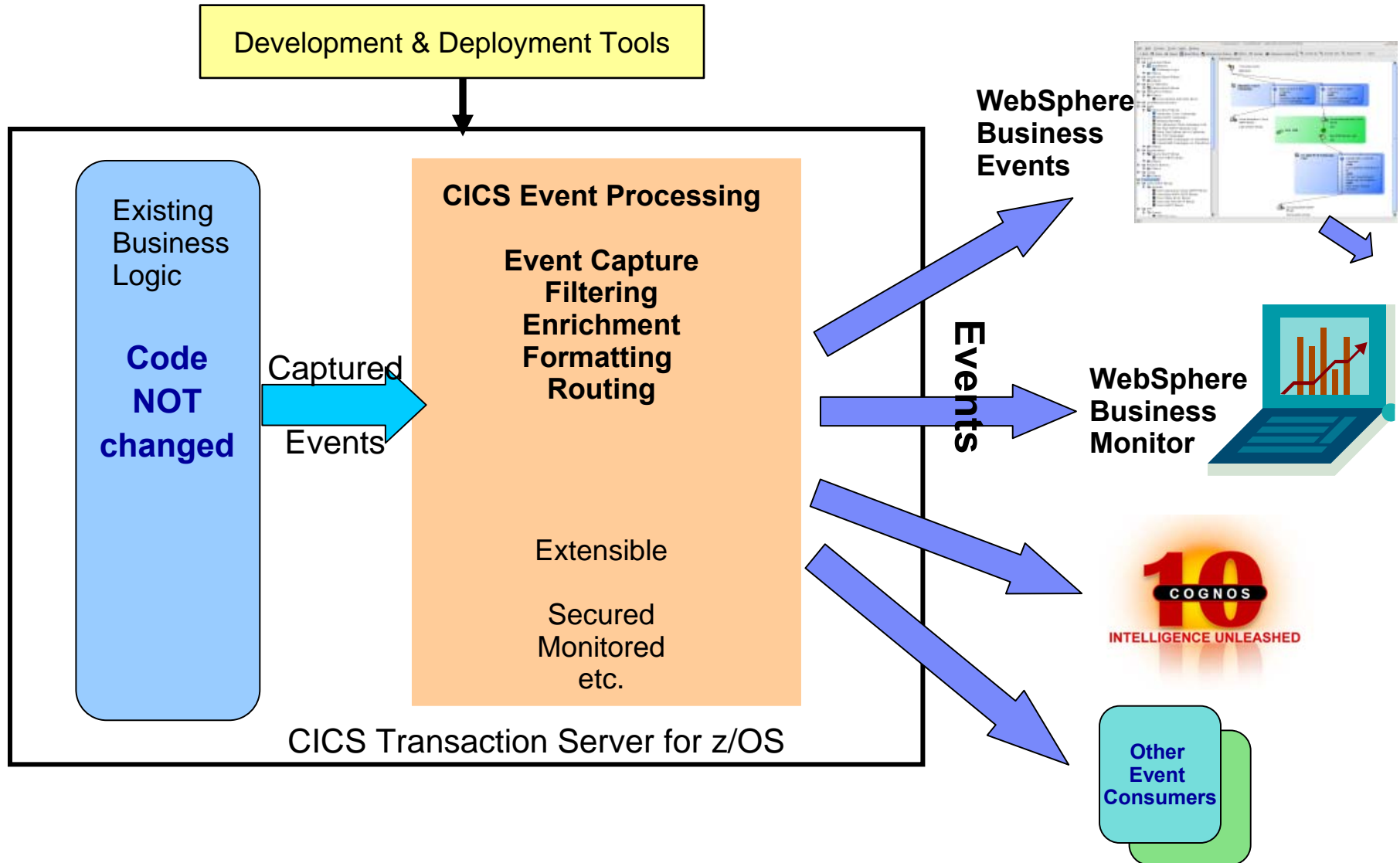
- Track large transactions for
 - Cash deposits, cash withdrawal, account transfer, check deposit
 - Such transactions are processed by CICS applications
- Generate events for
 - largeChequeDeposit, largeCashDeposit, largeCashWithdrawal, largeTransferIn, largeTransferOut
 - Events captured from the CICS applications
- Indication when a customer visits the branch
 - Event from RFID in customer's bank card

CICS and Business Events

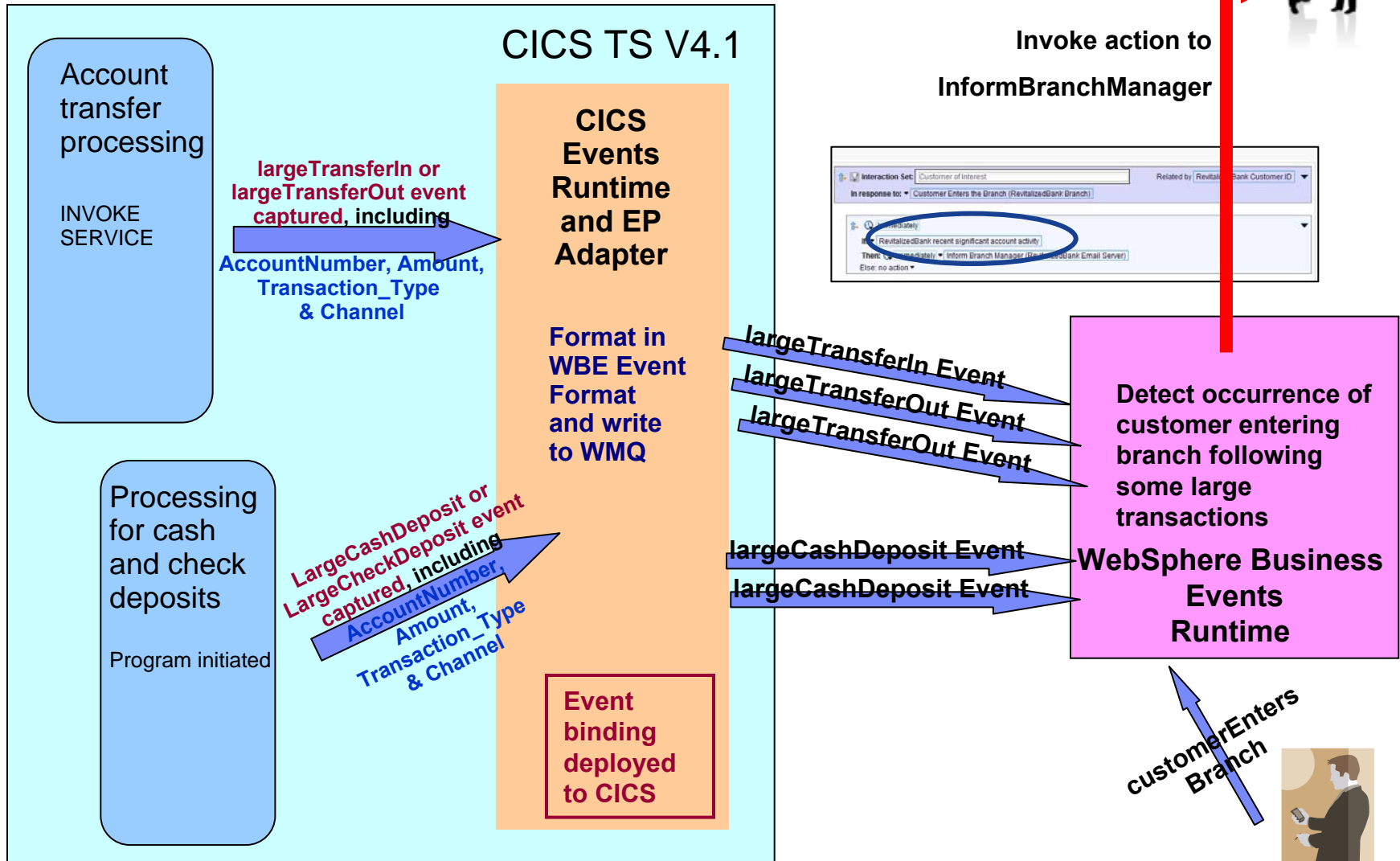
- **Event processing addresses the need for agility**
 - Modern businesses must react quickly to circumstances
 - Decision makers need reliable, timely information
 - *“Business events processing is becoming more important as it enables companies of all sizes and in all industries to proactively analyze and respond to minute market changes that can significantly impact their businesses” – Tom Rosamilia*
- **CICS systems run an enormous amount of existing business logic**
- **Using an Event-based approach, there is potential to gain insight into the processing in CICS and to introduce additional extensions to applications**
 - In a dynamic, de-coupled fashion
 - Without the need to change the applications
- **CICS Transaction Server for z/OS V4.1 allows business events to be emitted from existing applications**
 - Driving a choice of destinations
 - WebSphere Business Monitor, WebSphere Business Events, Cognos Real Time Monitoring, CICS application, application through WebSphere MQ, 3rd party vendor tools ...



CICS and event processing – overview

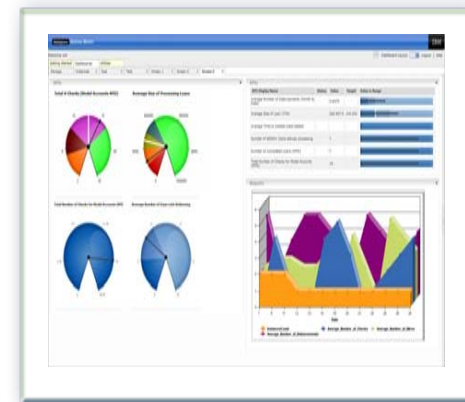


Customers of Interest Scenario in action



EP Scenario 1 – Observe business processing

- **Identify key points in order processing business logic**
 - e.g. order requested, order placed, order confirmed, order dispatched, order cancelled
 - Collect relevant contextual data associated with the event, including a way to correlate events for the same order, and emit event
 - Events sent e.g. to WebSphere Business Monitor
 - Observe orders being received, processed, cancelled
 - Study KPIs – numbers of orders received per week, time to process and dispatch orders, etc.
 - Take action when thresholds exceeded, when value of a customer's orders exceeds a certain amount, etc.
- **Original application continues processing independently:**
 - Event instrumentation is 'non-invasive' to the application



Observe processing – KPIs and Dimensions in Business Space

Instances

Export ...

🔍
Reset

orderID	itemID	customer name	item price	item quantity	order duration	order start time	order end time	order price	order status
+000012784	0001	Steve	20	20	24 m, 19.121 s	May 27, 2009 10:38:13 AM	May 27, 2009 11:02:32 AM	400	order canceled
+000012785	0002	Lijia	5	40	23 m, 25.009 s	May 27, 2009 10:39:24 AM	May 27, 2009 11:02:49 AM	200	order shipped

KPIs

KPI Name	Status	Value	Target	Actions	Value in Range
average time on order shipped		23 m, 18.601 s	1 h, 0 m, 0 s	📅 ⚠️ 📈	<div style="width: 100%; height: 15px; background: linear-gradient(to right, green, yellow, red);"></div>
percent of order cancelled		25.00%	30.00%	📅 ⚠️ 📈	<div style="width: 100%; height: 15px; background: linear-gradient(to right, green, red);"></div>

Dimensions

File Edit View Bookmarks Data Chart Tools Help

📄 📄 ↶ ↷ 📖 PDF EXL ?

Drill Down ▾ ↕ ↕ ↕ f(x) 📊 📈 📄 +

Measures

🟠 order canceled
🟦 order shipped

order status dimension ↑↓	average order price ↑↓	sum order price ↑↓	order count ↑↓
All order status dimension ↑↓	280	1120	4
order canceled ↑↓	400	400	1
order shipped ↑↓	240	720	3

24

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Business Analytics with IBM Cognos Real Time Monitoring

- **For critical, intra-day monitoring of operational KPIs and metrics**
 - Aggregated across multiple transactional systems and data sources
 - No BPM system required
- **Closed loop business optimization**
 - Complete loop from monitor to insight to corrective action
 - Identify, customize operational KPIs and metrics
 - Understand and perform root cause analysis
 - Drive rapid, effective decision-making and action
- **Autonomy for line of business user**
 - Self service model
 - User-defined thresholds, alerts
 - Graphical watch points
 - Customization by end users
- **Cost effective, low risk and rapid deployment**
 - No roles based pricing, unlimited user pricing in Americas
 - Prepackaged hardware, software or VM appliance



EP Scenario 2 – Non-invasive change to business processing

- **Application extended by triggering new or existing separate program for extra, asynchronous processing**
- Examples:
 - Extend governance practices by automatically updating an audit log or sending an alert when certain data is viewed or altered
 - Asynchronously send details of special offers or discounts when large customer orders have been placed
 - This example may be seasonal and is easily enabled/disabled without application change. The interpretation of a large order can be changed outside the application.
- **Original program continues processing independently**
- **Consumer program can run within CICS or externally**
 - Flexibility to use available skills and other resources
 - Choice of processing platform depends on nature of processing, interaction with other subsystems



EP Scenario 3 – Event Combination



- **Collect events relating to insurance quote requests**
- **How many of these result in the customer taking out insurance policies? Collect events relating to policies being taken out**
- **Look for opportunities in these patterns of behaviour, using WebSphere Business Events**
 - Several quotes requested, but only one type of policy taken out
 - Several quotes requested, but no policy taken out in the following 10 days
 - Opportunity to encourage purchase of other policy types?
 - Indication that other insurers are offering better quotes?
 - etc.
- **Specify actions to take in WBE e.g. targeted offer for types of insurance policy not taken out**

Event Combination – Insurance Quote Example

WebSphere Business Events Interaction Set

Response to TakeOutPolicy Related by **CustomerDetails.Customerid**

In response to **TakeOutPolicy** from **CICSEventSource** When

Where **No Offers Sent**
and **More than 2 quotes received**

Then **SendOffer** on **CICSServiceInvocation**

In response to **TakeOutPolicy** from **CICSEventSource** When

Always **AcknowledgePolicyTakenOut** on **CICSEventSource**

Events from CICS

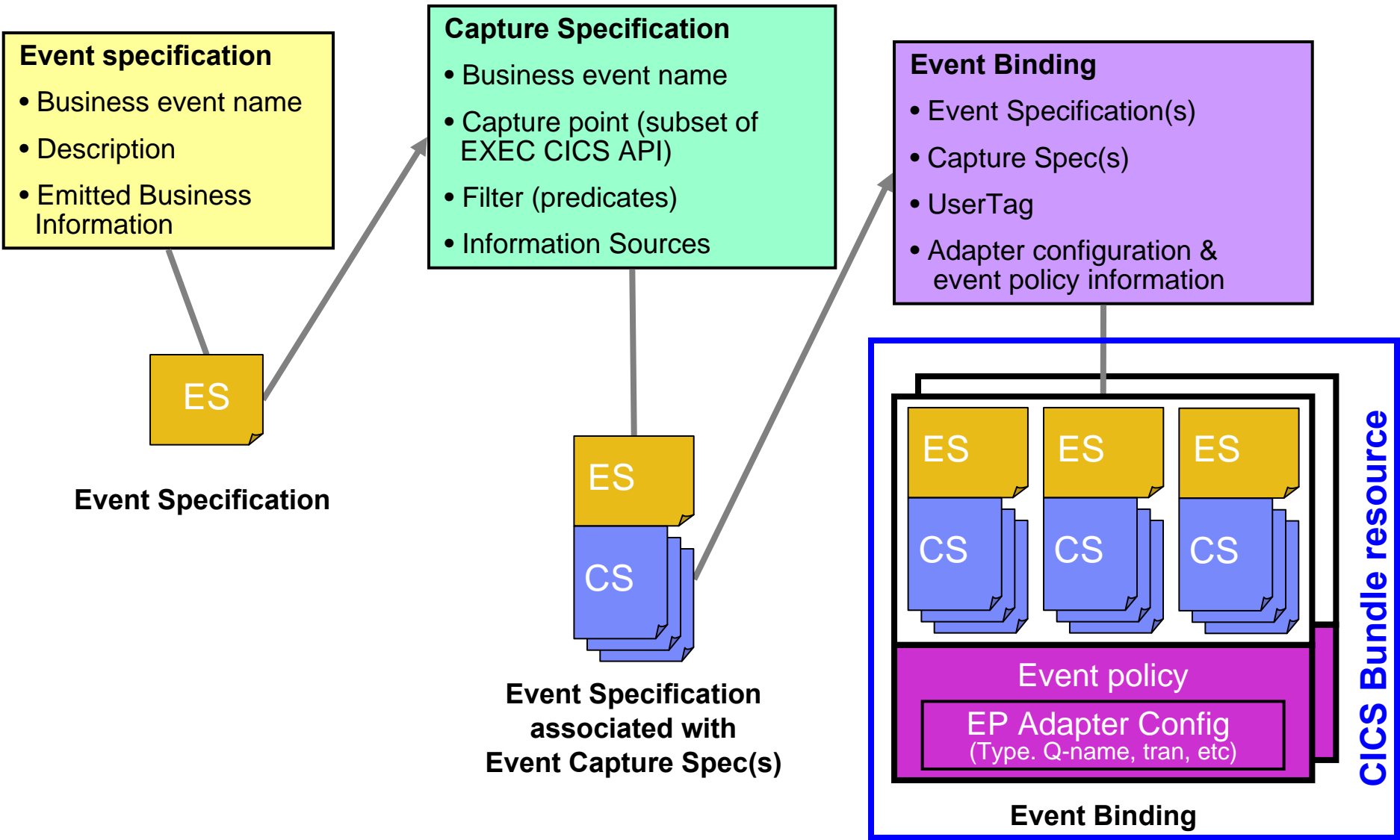
More than 2 quotes received Checks if

(**All Occurrences Of** **QuoteSent** **Is Greater Than** 2)

Policy taken out Checks if

(**All Occurrences Of** **AcknowledgePolicyTakenOut** **Is Greater Than** 0)

CICS Event Specification



Event Binding Editor Tooling

Capture Specification

- Capture point (from subset of EXEC CICS API)
- Filtering (predicates)
- Information Sources

The screenshot displays the IBM CICS Explorer interface. On the left is the Project Explorer showing a tree of applications including CatalogEPWBE, CatalogManager, CatManApp, InsuranceApp, MyNewBundle, MyOrderApp, and others. The main workspace is divided into several panes. The 'Specifications' pane lists various event types like LargeCashDeposit, LargeCashWithdrawal, and LargeTransferIn. The right-hand pane is the configuration editor, which is currently set to the 'Capture Specification' tab. It contains three sections: 'Application Context' with filters for Transaction ID, Current Program (set to CPPEPM33), User ID, and Response Code; 'Application Command Options' with filters for PROGRAM* (set to WPPEPM33) and CHANNEL; and 'Application Data' which includes a table for defining data predicates.

Source	Container	Offset	Length	Operator	Value
COMMAREA		77	8	Greater Than	5000

Event specification

- Business event name (LargeCashWithdrawal)
- Description
- Emitted Business Information

RevitalizedBank Events in CICS Explorer

IBM CICS Explorer

Explorer Edit Operations Administration RTA WLM Window Help

Server: CM11

CICSp1 CICSp1

Regions Tasks Transactions Bundles Event Bindings Capture Specifications

CNX0211I Context: PLEXZB. Resource: EVCSPEC. 14 records collected at Dec 15 2009 11:11:50 AM

Region	Capture Specification	Event Name	Events Captured
CICSRA10	LargeCashDepositCS	LargeCashDeposit	13
CICSRA10	LargeCashWithdrawalCS	LargeCashWithdrawal	19
CICSRA10	LargeChequeDepositOnThemCS	LargeChequeDeposit	9
CICSRA10	LargeChequeDepositOnUsCS	LargeChequeDeposit	9
CICSRA10	LargeTransferInCS	LargeTransferIn	9
CICSRA10	LargeTransferOutExternalCS	LargeTransferOut	12
CICSRA10	LargeTransferOutInternalCS	LargeTransferOut	9
CICSRA11	LargeCashDepositCS	LargeCashDeposit	8
CICSRA11	LargeCashWithdrawalCS	LargeCashWithdrawal	33
CICSRA11	LargeChequeDepositOnThemCS	LargeChequeDeposit	11
CICSRA11	LargeChequeDepositOnUsCS	LargeChequeDeposit	14
CICSRA11	LargeTransferInCS	LargeTransferIn	11
CICSRA11	LargeTransferOutExternalCS	LargeTransferOut	6
CICSRA11	LargeTransferOutInternalCS	LargeTransferOut	11

Consumable account information: CICS Web 2.0 and Atom feed support

Consumable Account Information

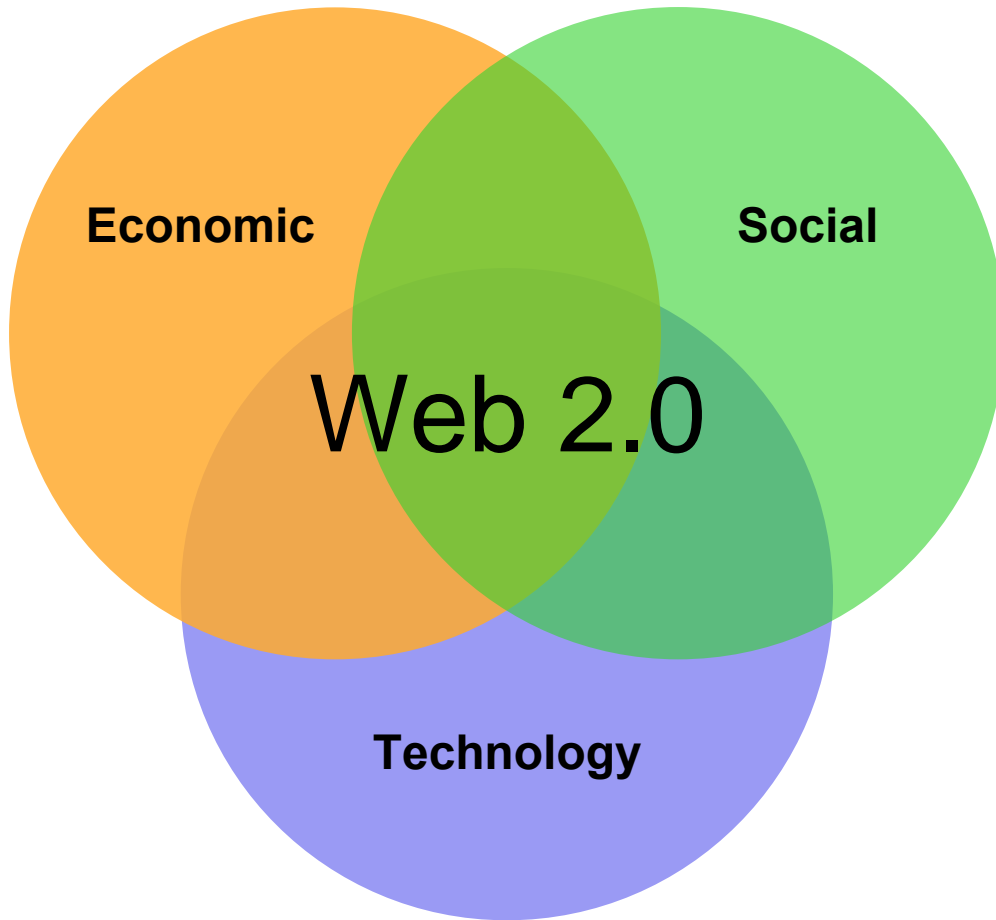
▪ **Business Need**

- Mobile application which provides added value to customer
 - View account data
 - Flag unusually large transactions
 - Find location of nearest ATM
 - Mashup of where transactions took place together with location of mobile device at the time
 - etc.

▪ **Achieved by**

- Atom feed of POS terminal and ATM locations
- Atom feed of account transactions
- Application on mobile device that displays feeds, flags up large transactions, and mashes up terminal locations with transactions and phone location

Web 2.0 is ...
why the internet is exciting today ...
... for everyone




Web 2.0 is a set of economic, social, and technology trends that collectively form the basis for the next generation of the Internet - a more mature, distinctive medium characterized by user participation, openness, and network effects.

Source: Web 2.0 Best Practices and Principles, O'Reilly Radar

Web 2.0 is a term that captures the widespread sense that there's something qualitatively different about today's Web.

Source: Tim O'Reilly

Using Web 2.0

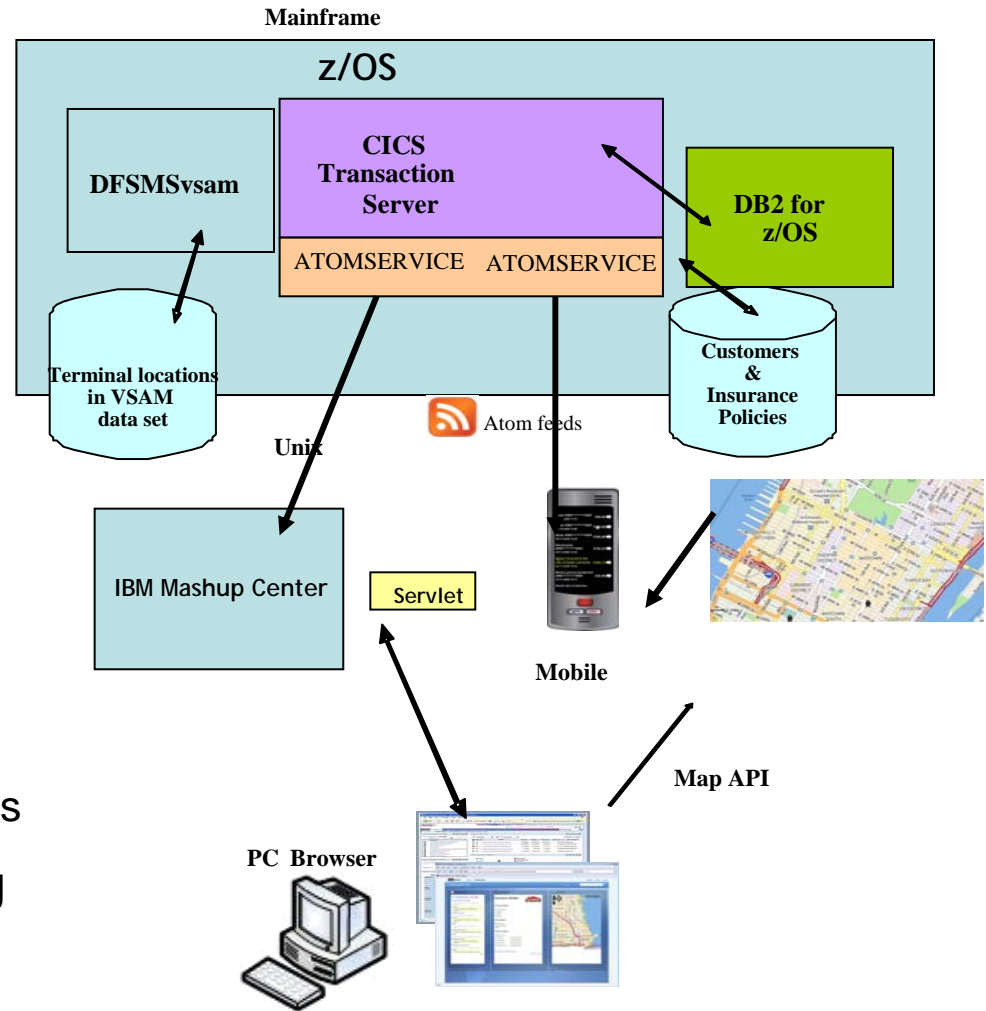
- **Web 2.0 is mainly about more dynamic forms of web interaction - “Rich Internet Applications”**
 - Mashups
 - Content from multiple servers composed in a single web page
 - Uses AJAX to communicate with server
 - Archetypal example is GoogleMaps
 -  – Syndications
 - Menu of short messages, possibly linking to other content
 - Podcasts
 - Blogs
 - Online “web log”, diary, etc, possibly collaborative
- **CICS ATOM support and Dynamic Scripting allows integration with “widgets” in a Web mashup environment**
 - Rapid application deployment on the Web
 - Enable “Situational applications”
- **Integrate with “IBM Mashup Center”**
 - <http://www.ibm.com/software/info/mashup-center/>

What is an Atom Feed?

- **Protocol and XML format for content publishing**
 - Provide XML based feed of updated content
 - Process is known as syndicating a feed
 - > Follow-on to Really Simple Syndication (RSS)
 - Simple publish/subscribe implementation
 - > Polling model
 - > Based on HTTP support
- Described by two Internet Requests for Comments
 - The Atom Syndication Format
 - Targeted at producing feeds
 - RFC4287: (Dec 2005) <http://tools.ietf.org/html/rfc4287>
 - The Atom Publishing Protocol
 - Targeted to creating and updating resources
 - RFC5023: (Oct 2007) <http://tools.ietf.org/html/rfc5023>

Atom feeds from CICS

- **Enables CICS applications to:**
 - Provide live information for Web 2.0 consumption
 - Integrate with related data
 - Give full picture in a single holistic view
- **Create new applications based on up-to-date content and information**
 - Decision-support tools for knowledge workers
 - Composite user interfaces for expert workers
 - Information feeds & widgets to consumers for use in their own mashups
- **Develop using Dynamic Scripting or RDz with EGL**

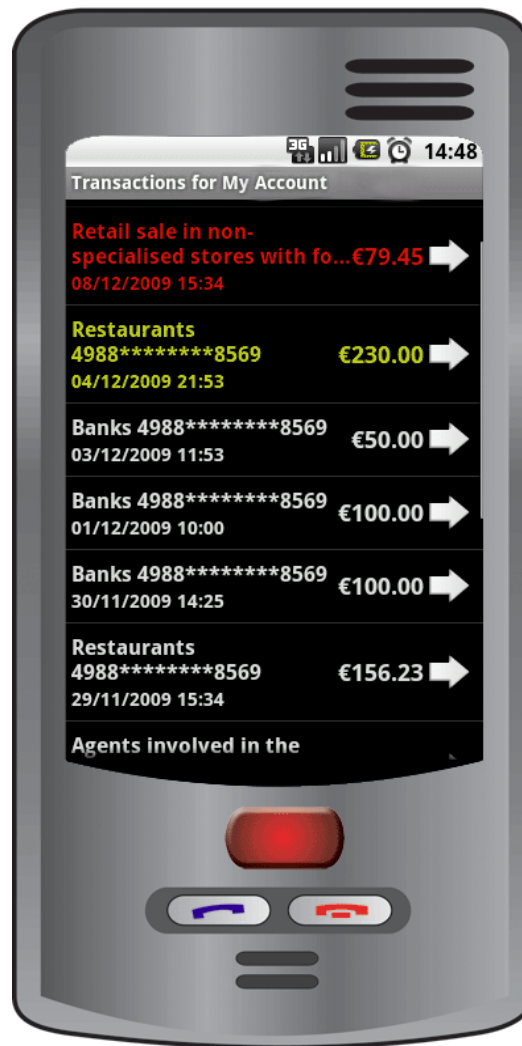


High level architecture: CICS Atom feeds

Mobile application showing Atom Feeds



Account Transactions



Large Transactions



PoS terminals and ATMs

Atom Support in CICS TS V4.1

- **URIMAP→ATOMSERVICE points to CICS resources to be exposed as feeds**
 - FILEs, TSQUEUEs or others (PROGRAM)
 - PROGRAM resource specifies the name of a custom “Service Routine” that can be used to access other data sources or link to other CICS applications
 - FILEs and TSQUEUEs are handled automatically (by a CICS-supplied Service Routine)
- **Atom and CICS metadata configured in a CONFIGFILE**
- **XML to binary mapping uses an XSDBIND file**
 - Bindfile is incorporated into a new XMLTRANSFORM resource

<http://winmvs2c.hursley.ibm.com/atom/cicsfile/termlocn>

URIMAP
PATH(atom/*)
USAGE(ATOM)

▪ **ATOMSERVICE**
▪ **ATOMTYPE(COLLECTION)**
▪ **STATUS(ENABLED)**
▪ **RESOURCENAME(TERMLOCN)**
▪ **RESOURCETYPE(FILE)**
▪ **BINDFILE**
▪ **CONFIGFILE**

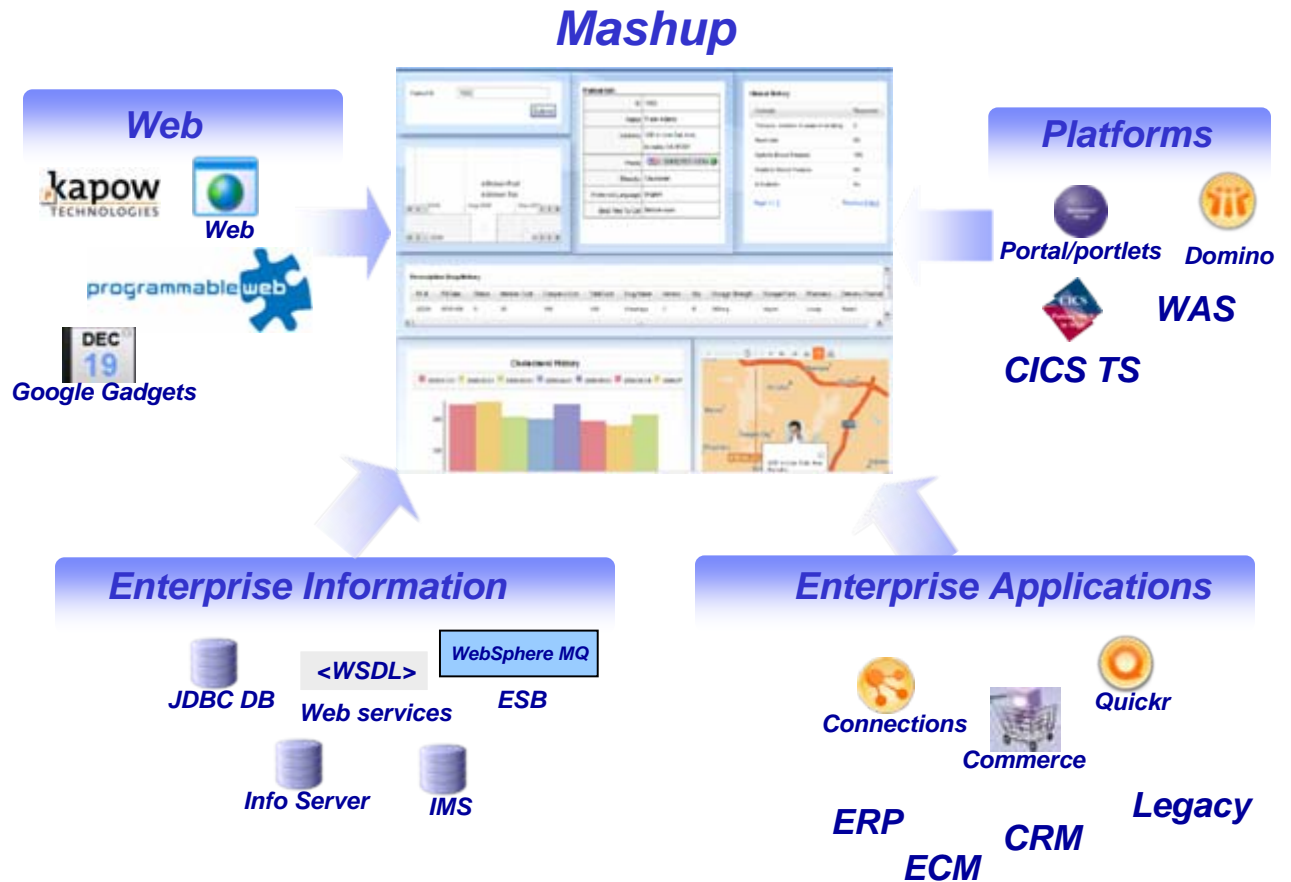
```
<cics:atomservice type="feed"
  xmlns:cics="http://www.ibm.com/xmlns/prod/cics/atom/atomservice"
  xmlns:atom="http://www.w3.org/2005/Atom">
  <cics:feed cics:window="6">
    <cics:resource name="TERMLOCN" type="FILE">
      <cics:bind root="RECORD"/>
    </cics:resource>
    . . .
  </cics:feed>
  <atom:feed xmlns:atom="http://www.w3.org/2005/Atom">
    . . .
    <atom:entry>
      <atom:title>Terminal Locations Feed</atom:title>
      <atom:content cics:resource="TERMLOCN" cics:type="FILE"/>
    </atom:entry>
  </atom:feed>
</cics:atomservice>
```

XSDBIND file

What is a Mashup?

A “*mashup*” is a lightweight web application created by combining information or capabilities from more than one existing source to deliver new functions & insights.

- Rapid creation (days not months)
- Reuses existing capabilities, but delivers new functions + insights
- Requires less technical skills
- Often mixes internal and external sources



Customer Mashup Patterns

Quick Applications



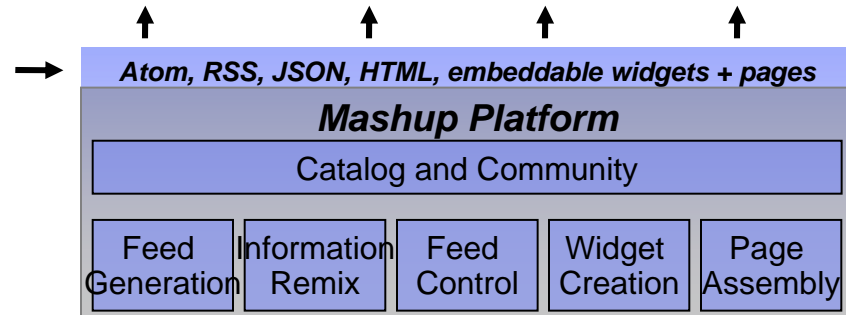
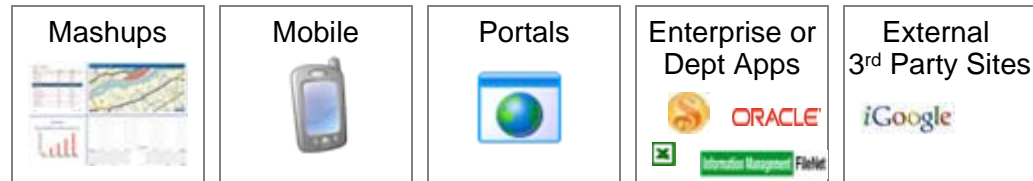
- Rapid creation of tactical or opportunistic applications
- Quick iterations for application agility
- Data Aggregation “on the fly”
- Quick solutions to automate repeatable tasks

+

Enterprise “Mashability”

Provide Context To Data!!

Many sources of enterprise information, applications, and SOA being generated/ transformed into feeds and widgets



Being consumed in many places

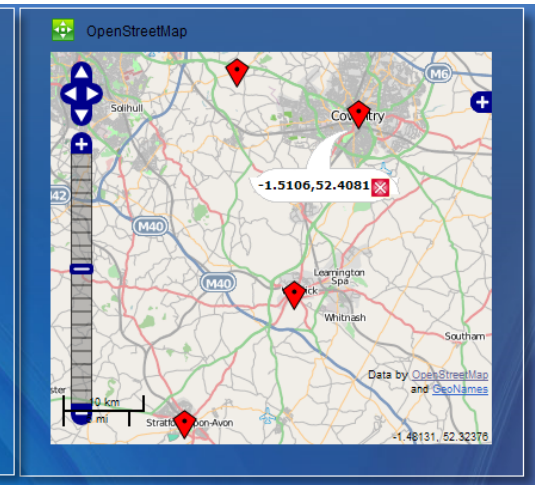
Using the IBM Mashup Center with CICS

- Wire PersonnelData TS queue data into other widgets, such as “OpenStreetMap”

Data Viewer

name	occupation	residence	map_location
Millie Oak	Gardener	Leamington	-1.5293, 52.3016
Sadie Godiva	Equestrian	Coventry	-1.5106, 52.4081
Carole Singer	Vocalist	Warwick	-1.5846, 52.2820
Bill Shakes	Scriptwriter	Stratford	-1.7102, 52.1908
Joe Bloggs	Media Consultant	Meriden	-1.6496, 52.4379

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Data Viewer

stat	numb	name	addrx	phone	datex	amount	comment
000100	S. D. BORMAN	SURREY, ENGLAND	32156778	26 11 81	\$0100.11	*****	
000102	J. T. CZAYKOWSKI	WARWICK, ENGLAND	98356183	26 11 81	\$1111.11	*****	
000104	M. B. DOMBEY	LONDON, ENGLAND	12846293	26 11 81	\$0999.99	*****	
000106	A. I. HICKSON	CROYDON, ENGLAND	19485673	26 11 81	\$0087.71	*****	
000111	ALAN TULIP	SARATOGA, CALIFORNIA	46120753	01 02 74	\$0111.11	*****	
000762	SUSAN MALAIKA	SAN JOSE, CALIFORNIA	22312121	01 08 74	\$0000.00	*****	
000983	J. S. TILLING	WASHINGTON, DC	34512120	21 04 75	\$9999.99	*****	
001222	D. J. VOWLES	BOBLINGEN, GERMANY	70315551	10 04 73	\$3349.99	*****	
001781	TINA J. YOUNG	SINDELFINGEN, GERMANY	70319990	21 06 77	\$0009.99	*****	
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004004	JANET FOUCHE	DUBLIN, IRELAND	71112121	02 11 73	\$1259.99	*****	

- Plug CICS ATOM feed directly into the Mashup Center “Data Viewer” widget

Risk Management dashboards: Dynamic Scripting in CICS

Risk Management Dashboard Scenario

▪ **Business Need**

- Provide risk management dashboard to horizontally integrate financial, operational and criminal risks
- Information is from a variety of sources, including CICS programs and data written to DB2 from CICS

▪ **Achieved By**

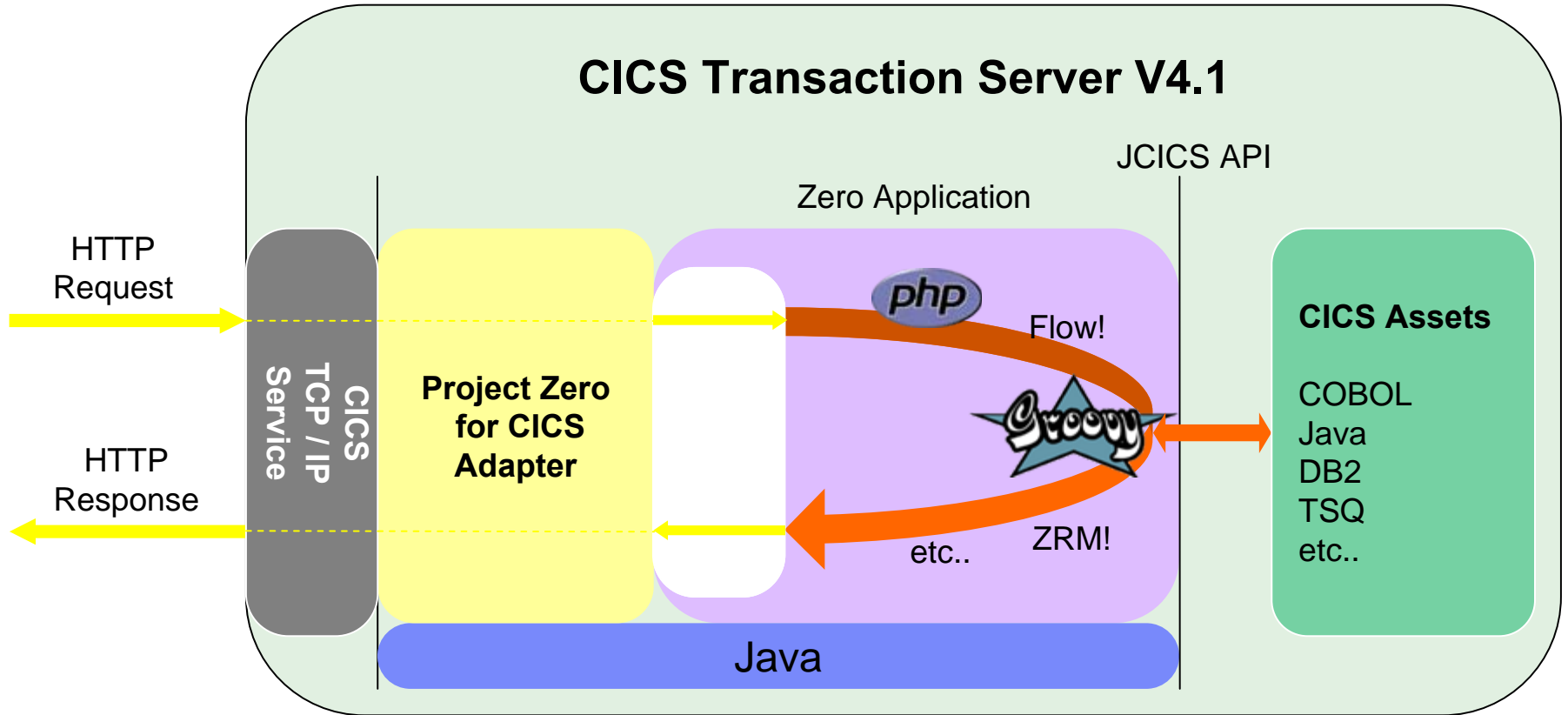
- CICS Dynamic Scripting
 - Build Web 2.0 scripts to expose and extend CICS applications and data
 - Exploit new technologies in robust and scalable environment,
 - Faster delivery, Better control, Reduced backlog, Fewer service-level failures

CICS Dynamic Scripting

- **WebSphere sMash is a dynamic scripting platform**
 - contains a PHP interpreter written in Java.
- **Application scripts are written in Groovy or PHP**
- **Runs in CICS TS V4.1 JVMServer environment**
 - Application platform for Java and PHP
- **Available now as *Dynamic Scripting Feature Pack for IBM CICS Transaction Server V4.1***

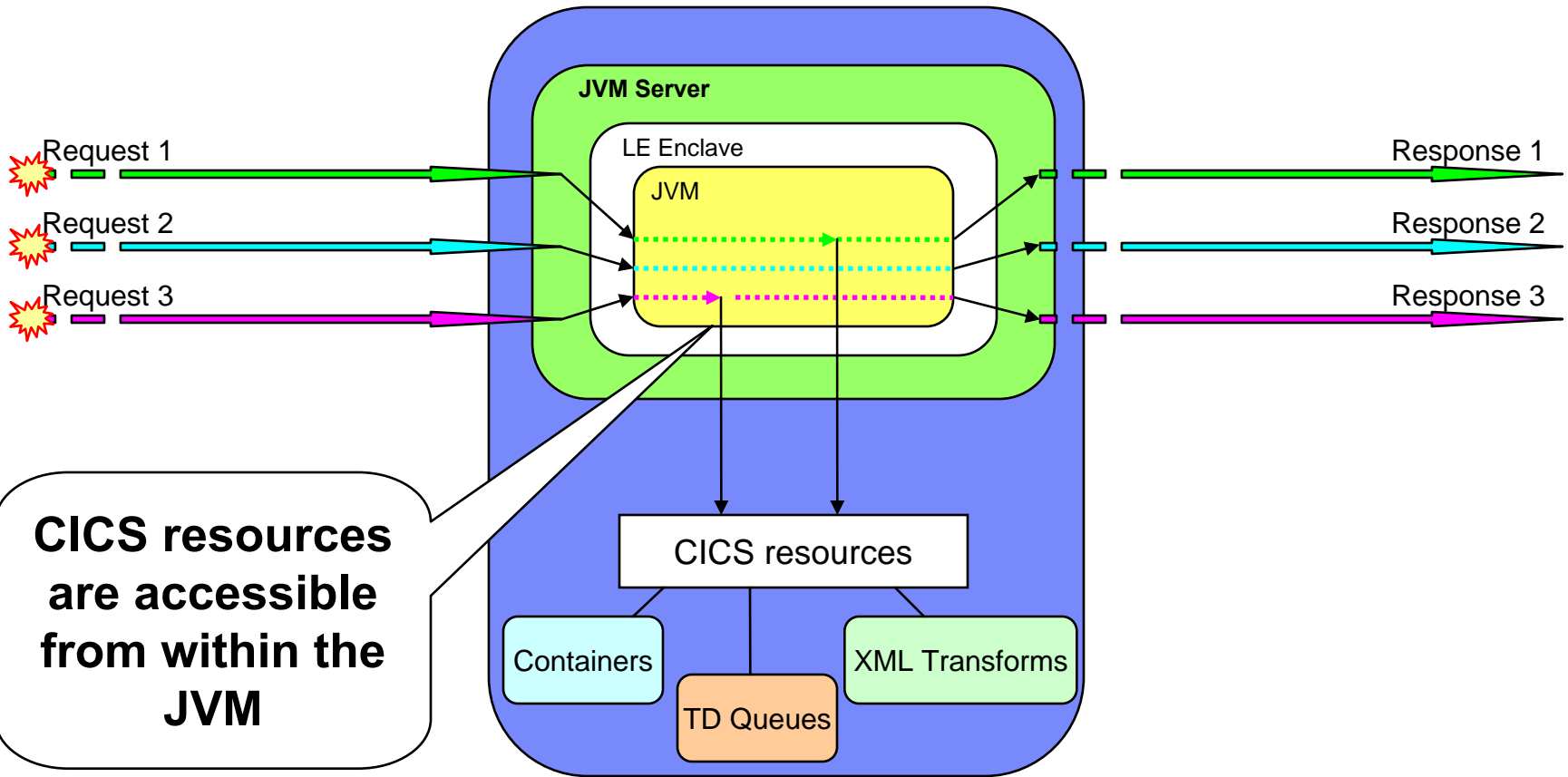


CICS Dynamic Scripting Architecture



JVMServer hosting Project Zero technology

CICS TS V4.1



What else can you do with CICS Dynamic Scripting?

- **Expose RESTful Web services and widgets**
 - Use in mashups and consoles
- **Create composite services, widgets, and applications**
 - Combine public and enterprise Web 2.0 data feeds
- **Build RESTful resource handlers**
 - With integrated ZRM data base, or mapped to DB2 for z/OS
- **Leverage Web 2.0 technologies**
 - AJAX, REST, Atom, JSON, RSS, etc

Develop, evolve, and deploy rich Web applications

Unleash and reuse enterprise content

PHP dashboard front-end to CICS application

Developing Browser Interfaces to CICS Applications - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

http://winmvs26.hursley.ibm.com:64450/php/catalog.php

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CICS Example Catalog Application

Item List

Item	Description	Cost	Stock	On Order
0010	Ball Pens Black 24pk	2.90	77	0
0020	Ball Pens Blue 24pk	2.90	5	50
0030	Ball Pens Red 24pk	2.90	106	0
0040	Ball Pens Green 24pk	2.90	80	0
0050	Pencil with eraser 12pk	1.78	83	0
0060	Highlighters Assorted 5pk	3.89	13	40
0070	Laser Paper 28-lb 108 Bright 500/ream	7.44	102	20
0080	Laser Paper 28-lb 108 Bright 2500/case	33.54	25	0
0090	Blue Laser Paper 20lb 500/ream	5.35	22	0
0100	Green Laser Paper 20lb 500/ream	5.35	3	20
0110	IBM Network Printer 24 - Toner cart	169.56	12	0
0120	Standard Diary: Week to view 8 1/4x5 3/4	25.99	7	0
0130	Wall Planner: Eraseable 36x24	18.85	3	0
0140	70 Sheet Hard Back wire bound notepad	5.89	84	0
0150	Sticky Notes 3x3 Assorted Colors 5pk	5.35	36	45

Thank you for shopping with the Big Blue Pen Company.

[More...](#)

Done

Summary



Summary, and Resources for more information



Summary

- **Revitalize the business and compete for new opportunities using**
 - CICS Events, for non-invasive emission of business events from CICS applications, to monitor business processing, react to interesting patterns of events, or drive additional processing
 - CICS Atom feeds, to provide data from CICS into mashups and other rich internet applications
 - CICS Dynamic Scripting support, for rapid development of applications using programs and data in CICS

Resources



For more information



CICS Development Technical Services

Engage the IBM Hursley CICS development team to ensure that you get the maximum value from your CICS investments.

Consultants are now available via a funded services engagement directly from CICS development providing a complete range of CICS services - no one has more experience!

- For more information please contact: CICSSTS@uk.ibm.com



CICS On Demand Seminars

Free customised technical agenda of CICS TS and CICS tools products

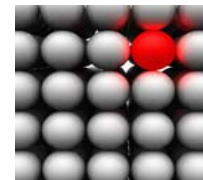
- Web Services, Events, Web 2.0, version upgrades, tooling etc.

Targeted at AD, System Programmers and Architects at customers' own location

Demonstrates how to use the new features in the latest releases to leverage existing solutions

Can be tailored to customers interests

- For more information please contact: cicssem@uk.ibm.com



CICS Communities and Information

- **CICS Transaction Server V4.1**
 - <http://ibm.com/cics/tserver/v41/>
- **CICS Explorer**
 - Home page ibm.com/cics/explorer
 - Forum <http://tinyurl.com/68bndw>
- **Twitter**
 - Subscribe to the [IBM_System_z channel](#) & [CICSfluff](#) channel to get CICS news flashes
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Thank You !