

Impact2010

The Premier Conference for Business and IT Leaders



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CICS TS 4.1
to *Compete*, *Comply* and *Control* your
Business !

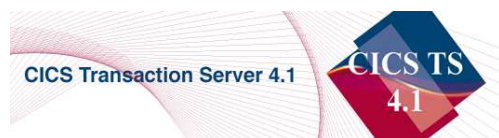


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Session Agenda

- CICS TS V4.1
 - Strategy and Themes
 - **Compete**
 - Event Processing
 - CICS Dynamic Scripting - Web 2.0
 - **Control**
 - CICS Explorer
 - **Comply**
 - Management of CICS resource definitions
 - **Architectural enhancements**
 - Improvements to XML parsing
- Summary



Strategy and Customer Trends

- **SOA continues to be major driving force**
 - Driving increased IT flexibility
 - Faster time to market for new solutions
 - Greater reuse of existing assets
- **Maturing of new programming architectures**
 - Event Based Processing
 - WEB 2.0
- **Skills and expertise shortages**
- **Increased Governance requirements and regulations**
- **Interoperability and synergy with other SOA products**



CICS Transaction Server V4 Themes

Compete for new opportunities by gaining insight into business processes and responding by modifying key business applications quickly and with confidence

Comply with corporate, industry and government policies to manage business risk of critical business applications

Control costs by simplifying IT infrastructure and improving development and operations productivity through easier-to-use interfaces and functions

Architectural Enhancements to relieve constraints on processing, configuration or data capacities allowing for continued application and system growth



CICS Transaction Server V4.1 Key Enhancements

Comply

Resource signatures
WebSphere Registry & Repository Support
Support for distributed identities

Compete

Support for event processing
Atom feeds from CICS
Application Bundles
Service Component Architecture
Java 6
Web Services Addressing
Improvements to data mapping

Control

CICS Explorer
IPv6
IPIC Transaction Routing
MQ Group attach
Improvements to CICSplex SM workload management
New SPI commands for managing the CSD
Discovery Library Adapter

Architectural Enhancements

Improvements to XML parsing in CICS
Large file hosting
Performance Improvements

Event Processing and CICS

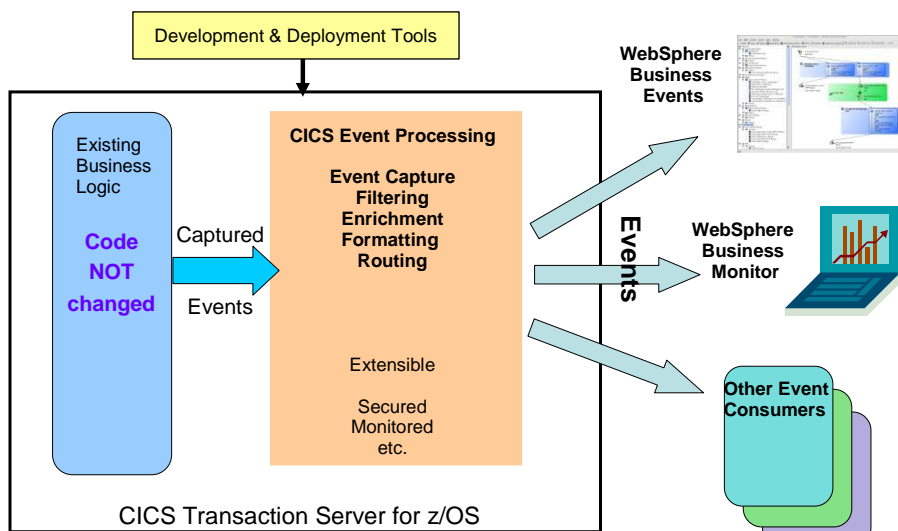
- **An event is something that happens (or doesn't happen) that is relevant to the business**
 - “simple” event: atomic event, meaningful in itself (single operation)
 - “complex event processing”: detect and respond to patterns of events (3 orders from customer A in 2 days, suspicious pattern of stock trades)
 - “Business Event Processing” extends complex event processing capabilities to business users
- **CICS can be significant source of events**
 - Focus is on events relevant to the Line-of-Business
 - CICS will emit single, atomic events
 - Events emitted by CICS could
 - Drive another CICS transaction
 - Be input to a monitor or business manager's dashboard
 - Be sent to a “complex event processing” engine such as WebSphere Business Events
 - etc.

Event Processing – Why now ?

- Event processing is not new
 - Systems management and monitoring
 - Pub/Sub messaging systems
- The **business value** of event processing is decreased latency in
 - Obtaining insights
 - Making decisions based on those insights
 - Executing the decisions
- Multiple business factors have accelerated event processing requirements:
 - Compliance with regulations on-line
 - Demand for cost reduction leading to more automation
 - Technology developments such as RFID
 - Desire for greater awareness of business behavior through Business Activity
 - Monitoring, Business Performance Management



Overview of CICS Event Processing support

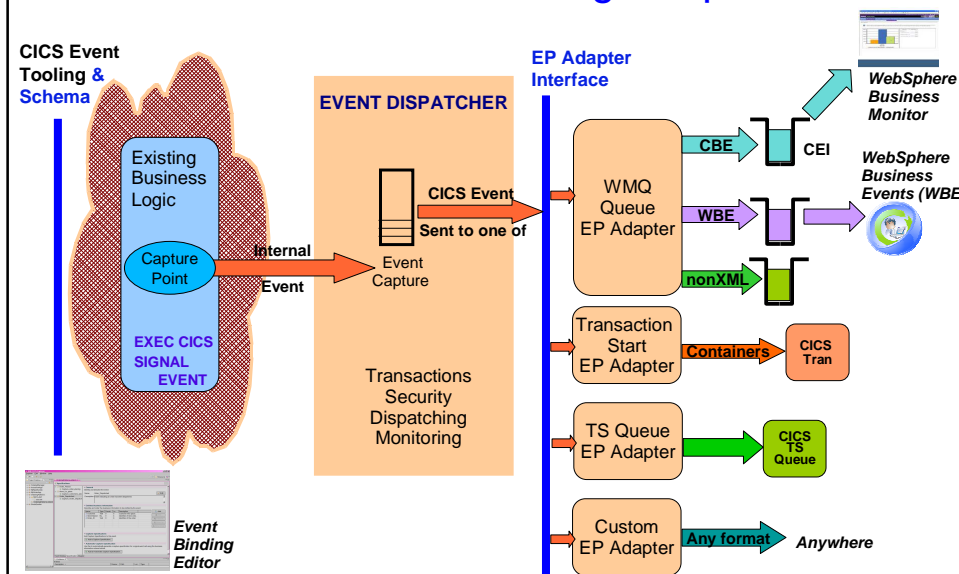


CICS Event Processing

- **Non-intrusive instrumentation** of events without need to change existing business logic
- **SIGNAL EVENT API** also supported for explicit instrumentation of events
- Tooling to create event specifications (CICS Explorer or RDz 7.6)
- Event specifications deployed to CICS via event bindings
 - Specifies event and its payload, and how it can be detected and captured by the CICS runtime
 - Specify event capture points as EXEC CICS command (a subset of the EXEC CICS API) plus filtering on command parameters and data
- Events dispatched to specified EP adapter for formatting and emission to event consumer
 - CICS-supplied EP adapters plus capability to write custom EP adapters



CICS Event Processing Adapters



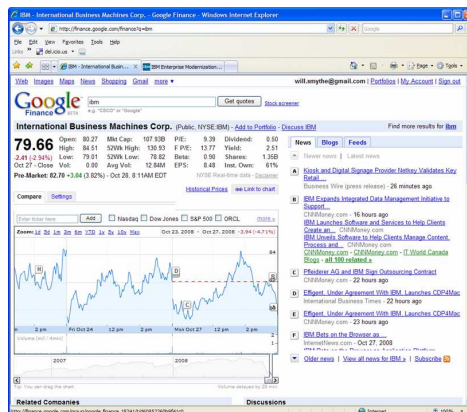
Web 2.0: Philosophy – not just Technology

- **An important trend in delivering software applications**
- **An enabler for richer web applications**
 - New business models
 - Peer-to-peer user participation
 - New technologies
 - Interactive filtering, presentation, data entry
- **A combination of core technology components**
 - Rich user experience (maps, grids, animation, D&D, etc)
 - Loose-coupling, composite applications via reuse and “mash-ups”
 - Technologies (SOAP, REST, AJAX, JSON, ATOM, Java, PHP, Dojo, Ruby, Python, Perl, etc)

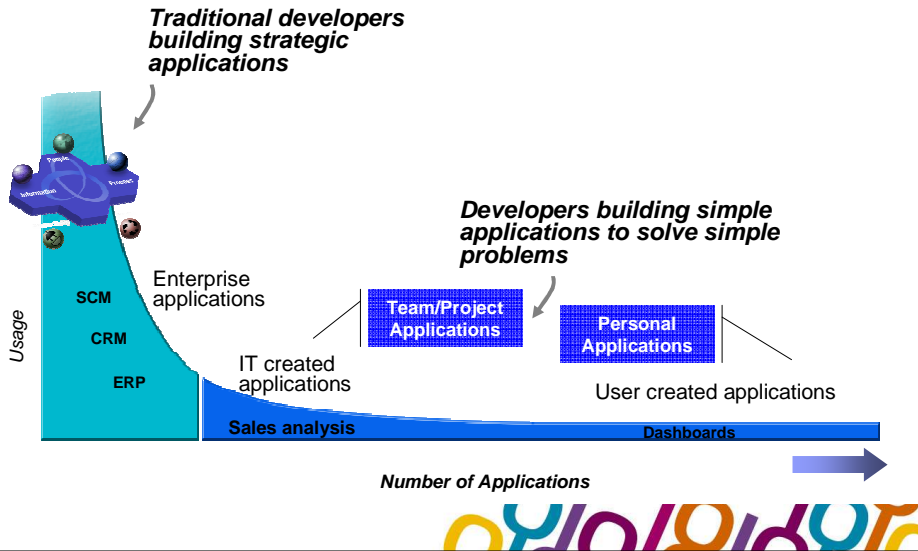


Web 2.0 Application Characteristics

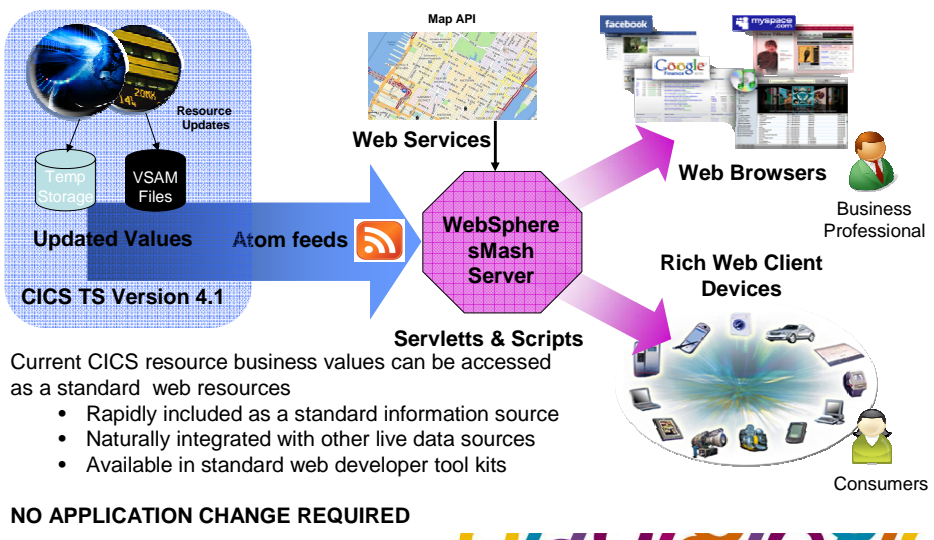
- Rich user experience with minimal page transitions
- Dynamic content
- Data asynchronously retrieved via REST or SOAP service calls
- Client-side validation
- User encouraged to add value
- Simplified user interface
- Integration of relevant data from multiple sources



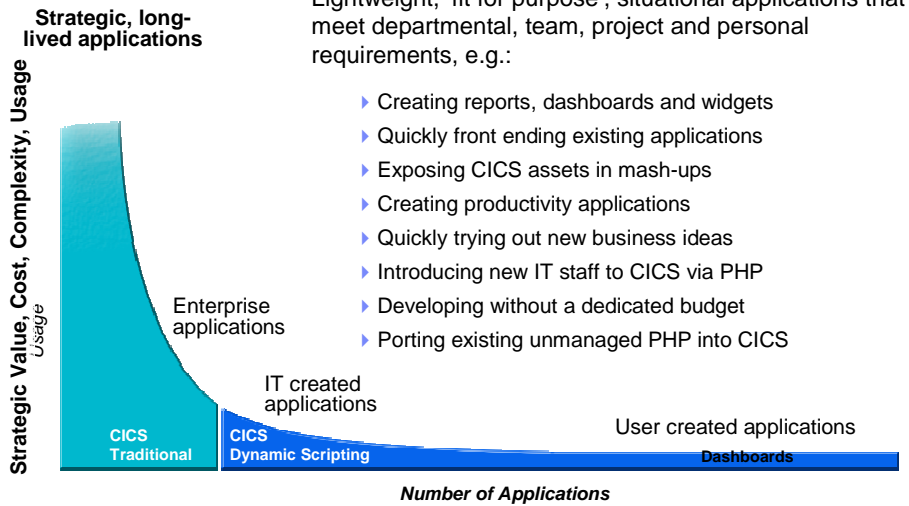
The Application Landscape



CICS Web 2.0 ATOM Feed



CICS Dynamic Scripting



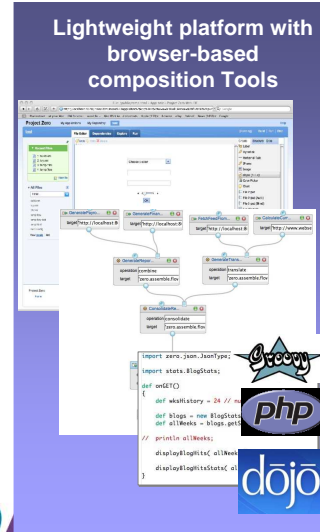
CICS Dynamic Scripting Feature Pack

- **CICS Transaction Server Dynamic Scripting Feature Pack**
 - Embeds and integrates WebSphere sMash technology into CICS TS
 - Provides a CICS based runtime for PHP and Groovy applications
 - **No-charge** download from the CICS website for CICS TS v4 licenses
 - Shipped with reusable, **no-charge** sample applications to demonstrate the capabilities
- **This gives all CICS application developers the opportunity to:**
 - Reduce the time and cost of CICS application development
 - Open up their environment to > 4 million PHP and Groovy developers

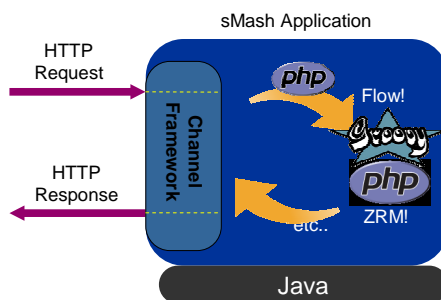
CICS Dynamic Scripting Feature Pack announced alongside a similar WebSphere Feature Pack
on 30th April 2010 (GA June 2010)

WebSphere sMash

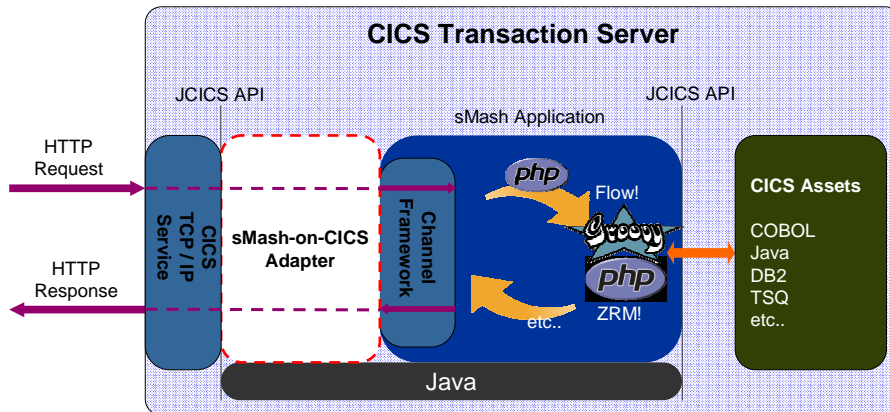
- **Speed**
 - **Dynamic scripting languages (PHP and Groovy – with Java as system language)**
 - Core application constructs: **templates, pre-built services**
- **Simplicity**
 - **Built-in browser-based composition tools: Visual tools** (for web page construction or scripting activities into a flow) and **scripting tools** (server-side dynamic scripting)
 - **REST-style architecture** – simple ways to expose and consume services
- **Agility**
 - Simple deployment (**application “is” the server**)
 - **Runtime Characteristics** (clean, cost effective, short-lived)



WebSphere sMash for z/OS with CICS TS



WebSphere sMash for z/OS with CICS TS



Performance test (Using new CICS TS 4.1 JVMSERVER infrastructure)

- 3 hour test using HTTP and HTTPS:
 - ▶ 250 HTTPS clients & 100 HTTP clients.
 - ▶ The HTTPS clients read 12,150 MB of data, and wrote 1,121MB & The HTTP clients read 3,417 MB of data, and wrote 301MB.
- One CICS region, MXT=500, JVMSERVER Threads set to 50:
 - ▶ At the end of the test, we had **4.2 million tasks**, a transaction rate of **326.59 per second**.
 - ▶ S8 TCBs were allocated 3.2 million times, and T8 TCBs 2.1 million times. was referenced 1,641,650 times.
 - ▶ The Catalog File EXMPCAT was browsed **2.6 million** times.



XML Support

- **New Markup Language Domain (ML)**
 - Uses the z/OS systems services parser
 - Eligible for off-load to zAAP engines
 - Parsing storage acquired from 64 bit storage
- **Generic XML Mapping**
 - EXEC CICS TRANSFORM command
 - XML to Data
 - Data to XML
 - **New XML Assistants**
 - Language structure to schema
 - Schema to language structure
 - Generates artifacts necessary to define a BUNDLE
 - New XMLTRANSFORM resource definition



XML Transform

- **New API to convert between XML and application data**
 - Map between XML and language structure
 - Uses a new type of bindfile
 - Created with DFHLS2SC & DFHSC2LS
- **TRANSFORM**
 - TRANSFORMTYPE(XMLTODATA | DATATOXML)
- **Command options depend on the direction of the transformation**
 - XMLTODATA will require XMLTRANSFORM resource, providing metadata used for the transformation
 - XMLTRANSFORM resource installed via Bundle support



Upgrade strategies

- **CICS TS V4.1 is suitable for all CICS customers**
 - Subject to availability of software pre-reqs - see next slide
- **Customers who have completed an upgrade to CICS V3**
- **Customers using unsupported releases of CICS who have not yet started to upgrade to CICS TS V3**
 - Develop a plan to upgrade directly to CICS TS V4.1
 - CICS TS V2.1 and CICS TS V2.2, all releases of CICS TS V1, all releases of CICS/ESA V4, and all previous levels of CICS are withdrawn from marketing and service has been discontinued
 - CICS TS V2.3 is withdrawn from marketing, and service will be discontinued withdrawn in September 2009
- **Customers who are partially through an upgrade to CICS TS V3**
 - Should continue, unless they have a strong business need for new functions provided by CICS TS V4.1



CICS TS V4.1 Software pre-reqs

- **The minimum required level of operating system for CICS TS V4.1**
 - IBM z/OS V1.9 (5694-A01)
- **For installation and service of z/OS software products**
 - IBM SMP/E for z/OS V3.04 (5655-G44), or later is required
- **To develop, deploy, test, and debug enterprise beans**
 - An application development infrastructure should be employed that enables a developer to use an integrated development environment (IDE).
 - Rational Developer for System z is the recommended tool by which enterprise Java beans are deployed into CICS. It incorporates a complete IDE for multiple languages and runtimes, including tools for creating, generating and deploying COBOL or PL/I transactions for CICS, as well as testing the deployed code.
- **For Java applications, enterprise beans, the CICS Web services assistant and CICS XML assistant**
 - IBM 31-bit SDK for z/OS Java Technology Edition, V6, Service Refresh 4 (SR4) is required
- **For identity context propagation functions in CICS TS V4.1**
 - IBM z/OS V1.11 (5694-A01) is required, and also an enabling CICS PTF (see APAR PK83741 Functional enablement for support of distributed identities)



Summary

Business Flexibility, Governance and Compliance

- Component Architecture
- Event Processing
- RESTful Web services and Atom support
- Web Services Enhancements
- Prepare to use Axis2 shared component
- Support key dependency requirements from governance solutions (e.g. Identity propagation)
- Integrated WSRR support
- CSD/BAS Governance and Audit

IT Simplification

- CICS Explorer
- Dynamic Workload Management for high volume customers
- IPIC support for Transaction Routing
- IPv6 support
- RESTful SPI Server enablement for universal exploitation
- Enable Tivoli end-to-end tooling via DLAs and CMDB

Architectural Enhancements

- Floating point register support and 64-bit positioning
- VTAM Persistent sessions and ALET usage
- Re-engineer for additional RDO capacity
- Java 6



Pre-requisites

z/OS 1.9
J2SE 6

CICS TS 4.1 allows you to

Compete for new opportunity by gaining insight into business processes and responding by modifying key business applications quickly and with confidence

– Business Flexibility and Innovation

Comply with corporate, industry and government policies to manage business risk of critical business applications

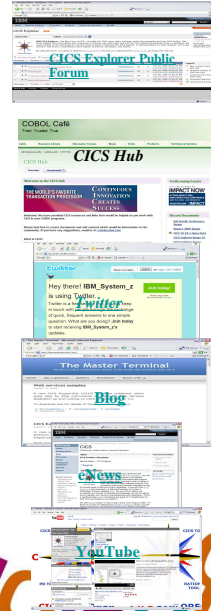
– Governance and compliance

Control costs by simplifying IT infrastructure and improving development and operations productivity through easier-to-use interfaces and functions

– IT Simplification

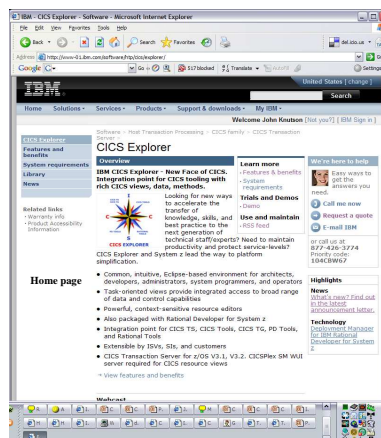
CICS Communities

- **CICS Explorer Forum**
 - IBM developerWorks forum with FAQs, Links and resources, ISV Contributions, etc. Ask questions, suggest improvements, report problems, and chat at <http://tinyurl.com/68bndw>
- **New! CICS Hub on the Rational COBOL Café**
 - <http://ibm.com/software/rational/cafe/community/cobol/cics>
- **Join our I♥CICS Facebook group:**
 - <http://facebook.com/group.php?gid=4907254593>
- **Twitter**
 - Subscribe to the IBM_System_z channel to get System z news flashes, and to http://twitter.com/IBM_CICS for CICS-specific tweets
- **CICS Blog**
 - Comment and opinion at TheMasterTerminal.com
- **CICS eNews**
 - Subscribe for news about CICS and related products
- **YouTube channels**
 - CICS Explorer - Videos, demos and other cool stuff
 - CICSFluff - Other CICS videos



Learn More About CICS

- **CICS Transaction Server V4.1**
 - Home page <http://ibm.com/cics/tserver/v41/>
 - V4.1 announcement <http://tinyurl.com/cjc9oj>
- **CICS Explorer**
 - Home page ibm.com/cics/explorer
 - Downloads <http://ibm.com/cics/explorer/download>
 - **New Redbook**: “Extend the CICS Explorer: A Better way to manage your CICS” (SG247819)
- **CICS Tools**
 - Home page <http://ibm.com/cics/tools>
- **CICS Transaction Gateway**
 - Home page <http://ibm.com/cics/ctg>



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