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CICS TS V4.R2 Technical Overview

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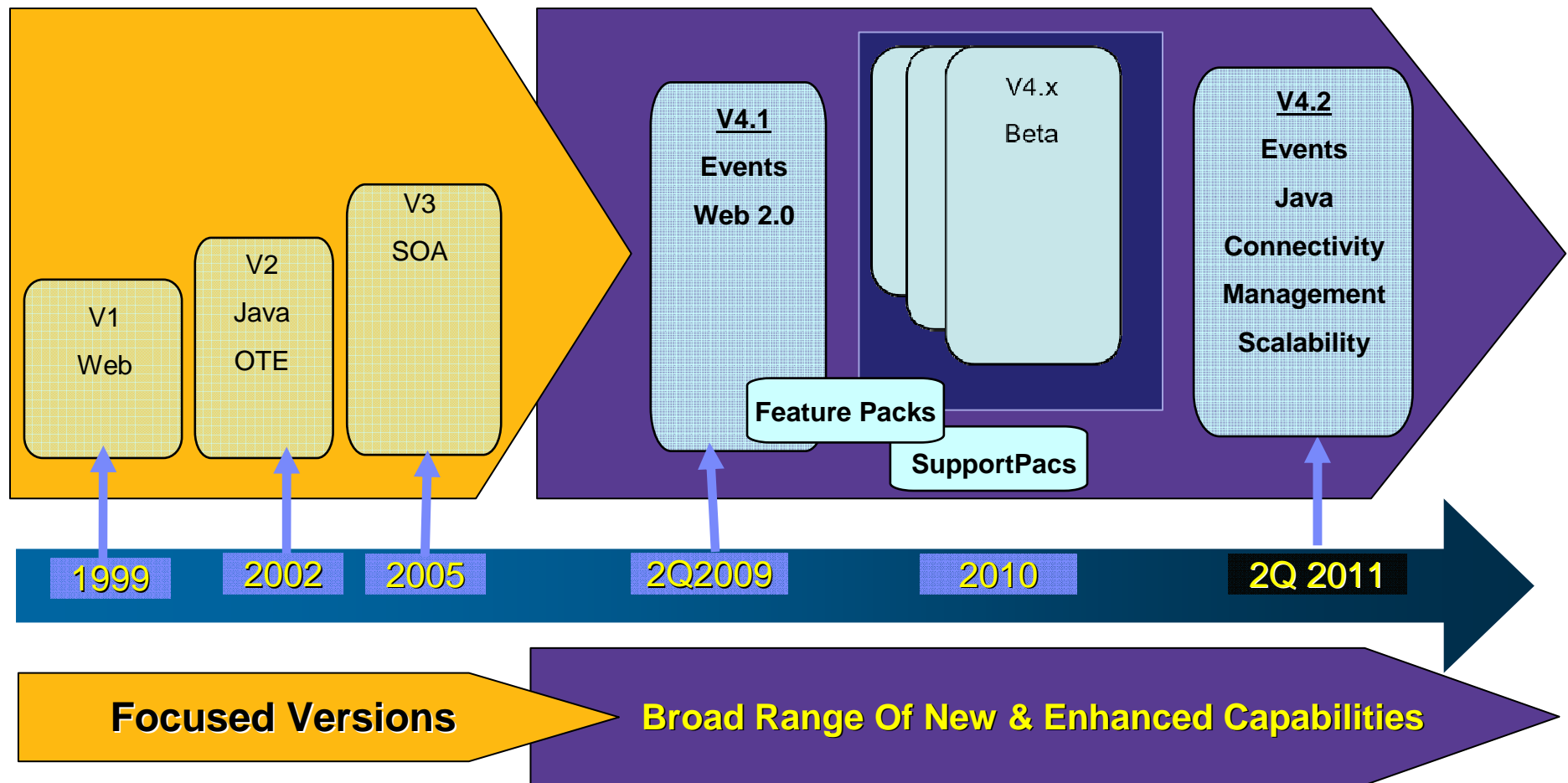
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Session Agenda

- Focus Areas
- CICS Explorer
- Functional areas and benefits
 - Events
 - Java
 - Connectivity
 - Management
 - Scalability
- Summary

CICS Transaction Server: The Story So Far...



CICS Transaction Server for z/OS Version 4

Events



- Business and Systems Events
- Lifecycle Management
- Development and Deployment Tooling

Management



- Transaction Tracking
- Workload Management
- Security Enhancements

Java

- 64-bit Applications
- Multithreaded Server
- OSGI Management



Scalability

- More Threadsafe
- Better Concurrency
- 64-bit Exploitation



Connectivity



- Axis2 Web Services
- Web 2.0
- IPIC Support

***New and enhanced
capability across five major
technology areas***

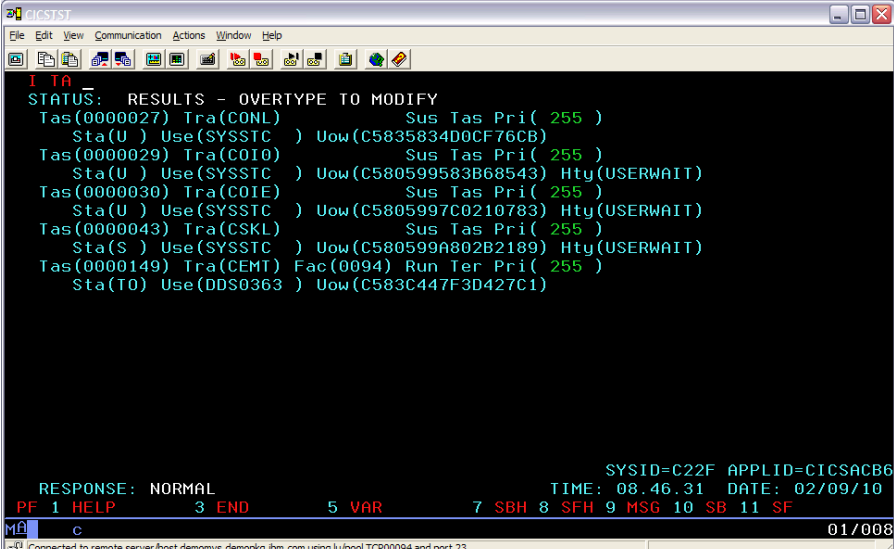
Statements of direction

- ~~• IBM intends in the future for IBM WebSphere MQ for z/OS to provide Group Units of Recovery (Group UR) support for IBM CICS Transaction Server for z/OS (CICS TS)~~
Available 25 Nov 2011
- ~~• IBM intends in the future to deliver a Dynamic Scripting Feature Pack for use with CICS TS V4.2~~
Available 30 Sept 2011
- IBM intends a future release of CICS TS to discontinue support for both:
 - Session beans using Enterprise Java Beans (EJB)
 - The Java pool infrastructure

CICS Explorer

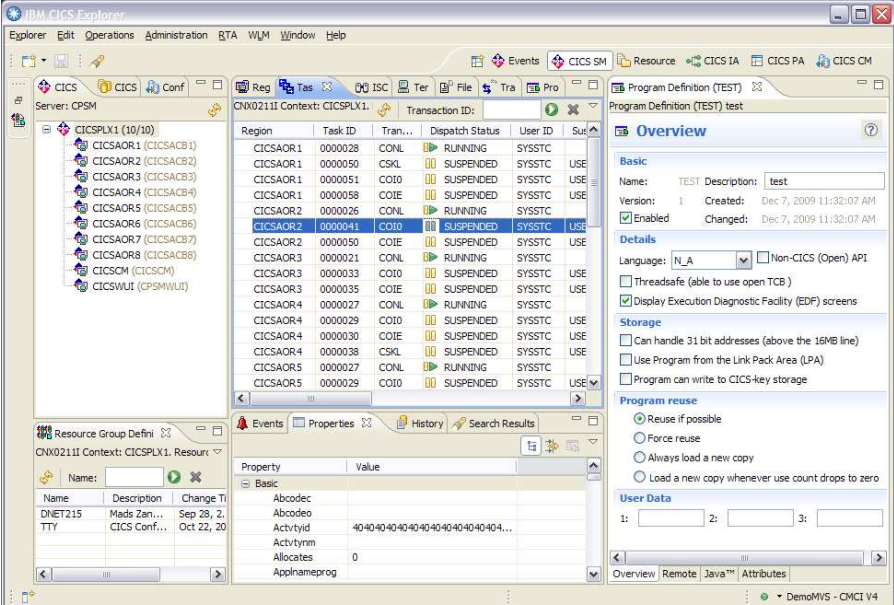
CICS Explorer

- “The New Face Of CICS”
 - A new user interface for interacting with CICS
 - Built on the Eclipse Rich Client Platform
 - Rich UI allows more sophisticated methods of interaction
- Offers similar functionality as existing interfaces
 - Web UI, CICS resource changes
- And some functionality you can't do through existing interfaces
 - Transaction Tracking, Event Binding Editor, OSGi bundle deployment



```
STATUS: RESULTS - OVERTYPE TO MODIFY
Tas(0000027) Tra(CONL) Sus Tas Pri( 255 )
Sta(U ) Use(SYSSTC ) Uow(C5835834D0CF76CB)
Tas(0000029) Tra(CO10) Sus Tas Pri( 255 )
Sta(U ) Use(SYSSTC ) Uow(C580599583B68543) Hty(USERWAIT)
Tas(0000030) Tra(COIE) Sus Tas Pri( 255 )
Sta(U ) Use(SYSSTC ) Uow(C5805997C0210783) Hty(USERWAIT)
Tas(0000043) Tra(CSKL) Sus Tas Pri( 255 )
Sta(S ) Use(SYSSTC ) Uow(C580599A802B2189) Hty(USERWAIT)
Tas(0000149) Tra(CEMT) Fac(0094) Run Ter Pri( 255 )
Sta(T0) Use(DDS0363 ) Uow(C583C447F3D427C1)

RESPONSE: NORMAL
SYSID=C22F APPLID=CICSACB6
TIME: 08.46.31 DATE: 02/09/10
PF 1 HELP 3 END 5 VAR 7 SBH 8 SFH 9 MSG 10 SB 11 SF
01/008
```



Region	Task ID	Tran...	Dispatch Status	User ID	Sus...
CICSAOR1	0000028	CONL	RUNNING	SYSSTC	USE
CICSAOR1	0000050	CSKL	SUSPENDED	SYSSTC	USE
CICSAOR1	0000051	CO10	SUSPENDED	SYSSTC	USE
CICSAOR1	0000058	COIE	SUSPENDED	SYSSTC	USE
CICSAOR2	0000026	CONL	RUNNING	SYSSTC	USE
CICSAOR2	0000041	CO10	SUSPENDED	SYSSTC	USE
CICSAOR2	0000050	COIE	SUSPENDED	SYSSTC	USE
CICSAOR3	0000021	CONL	RUNNING	SYSSTC	USE
CICSAOR3	0000033	CO10	SUSPENDED	SYSSTC	USE
CICSAOR3	0000035	COIE	SUSPENDED	SYSSTC	USE
CICSAOR4	0000029	CO10	SUSPENDED	SYSSTC	USE
CICSAOR4	0000030	COIE	SUSPENDED	SYSSTC	USE
CICSAOR4	0000038	CSKL	SUSPENDED	SYSSTC	USE
CICSAOR5	0000027	CONL	RUNNING	SYSSTC	USE
CICSAOR5	0000029	CO10	SUSPENDED	SYSSTC	USE

Program Definition (TEST) test

Basic

Name: TEST Description: test

Version: 1 Created: Dec 7, 2009 11:32:07 AM

Enabled Changed: Dec 7, 2009 11:32:07 AM

Details

Language: N/A Non-CICS (Open) API

Threading (able to use open TCB)

Display Execution Diagnostic Facility (EDF) screens

Storage

Can handle 31 bit addresses (above the 16MB line)

Use Program from the Link Pack Area (LPA)

Program can write to CICS-key storage

Program reuse

Reuse if possible

Force reuse

Always load a new copy

Load a new copy whenever use count drops to zero

User Data

1: 2: 3:

CICS Explorer...

- **Simplify CICS**
 - Single user interface for CICS & CICSplex SM
 - Common, intuitive, Eclipse-based tooling environment for new and experienced
 - *Architects and Developers*
 - *System administrators and System programmers*
 - *Operators*
- **Integration platform - Value of the sum exceeds the part**
 - First class cross tooling integration
 - Consistent views across tooling
 - Consolidated tooling with a central view into the CICS world
 - Supports CICS runtime, CICS tools, CICS connectors, plus other IBM and third-party software
- **Software Development Kit (SDK)**
 - Provides separately packaged plug-ins for any Eclipse-based environment
 - API allows 3rd parties to extend or integration existing capability
 - Layered architecture allows Eclipse-independent components to be used in any environment

Events

What is an event?

- An event...
 - ...is anything that happens*
 - ...has a name and usually some data (its payload)*
 - ...is produced and responded to asynchronously*
- Simple event processing...
 - ...is the processing of a single event, meaningful in itself; not an abstraction or composition of other events*
- Complex event processing...
 - ...is detecting and responding to patterns of events*
- Business Event Processing...
 - ... is using simple and complex event processing to detect and respond to business-impacting situations across the enterprise*

What is Business Event Processing?

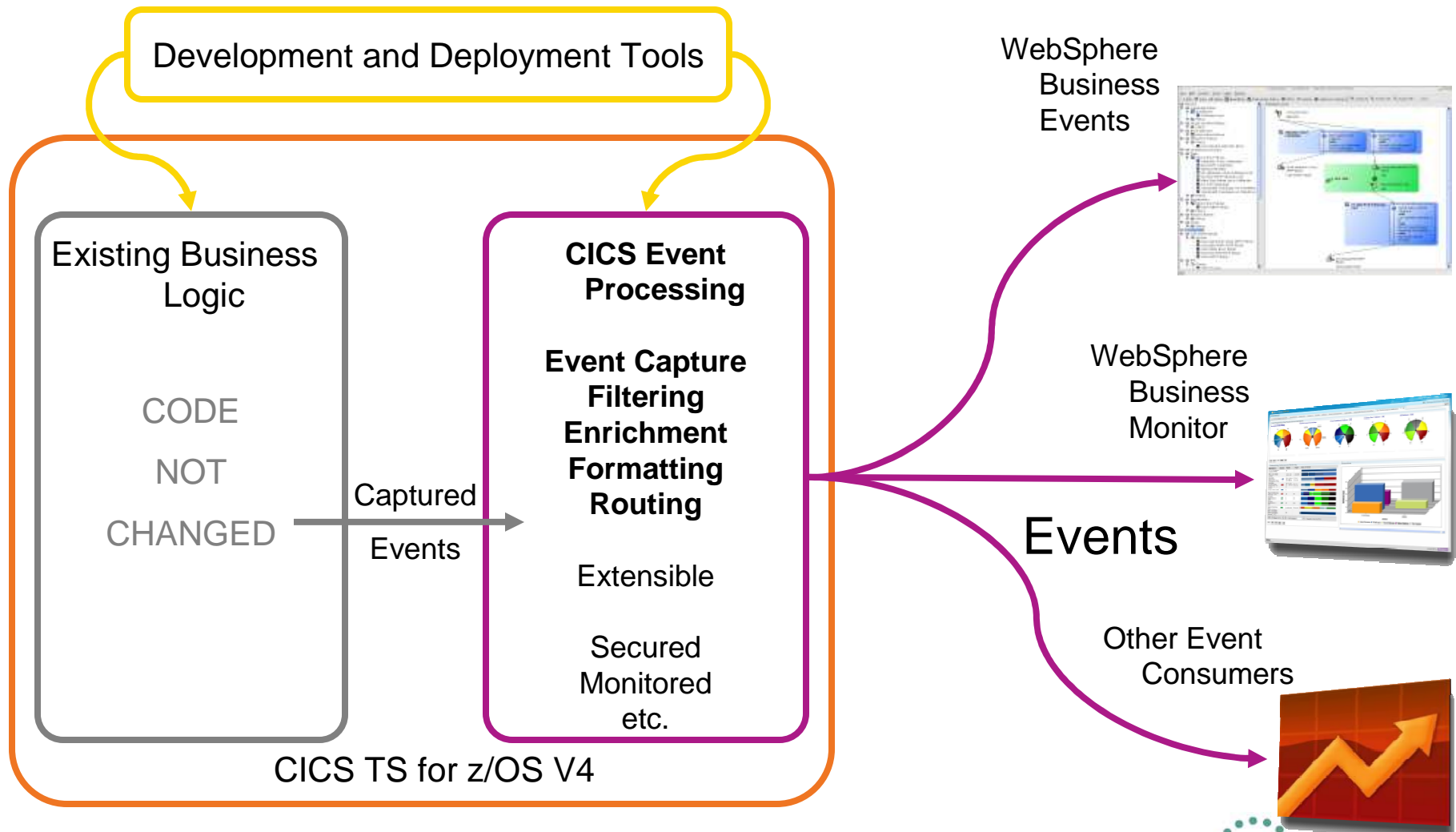
“Turn insight into action”



CICS and Business Events

- Event processing addresses the need for agility
 - Modern businesses must react quickly to circumstances
 - Decision makers need reliable, timely information
- CICS systems run an enormous amount of existing business logic
- With an Event-based approach
 - Potential to gain insight into the processing in CICS
 - Introduce additional extensions to applications
- CICS TS V4.1 allows you to emit business events from existing applications
 - Supporting changing corporate policies
 - Without the need to change the applications
 - In a dynamic, de-coupled fashion
 - And driving your choice of destination
 - WebSphere Business Monitor
 - WebSphere Business Events
 - CICS application
 - MQSeries, ...

CICS TS V4 Event Processing



CICS TS V4 Event Processing...

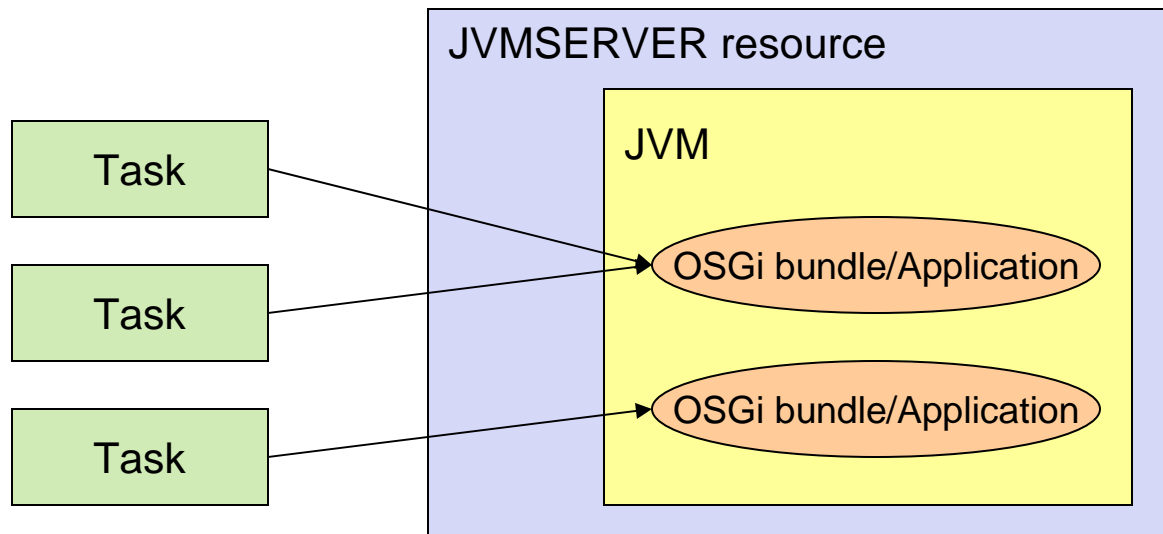
- EP Search capability
 - Available in the CICS Explorer
 - Enter the name of the “thing” you have changed and EP search will tell you which event bindings may be affected
 - ‘Things’ include:
 - CICS resource names
 - Language Structure names
 - Language Structure field names
- Searches event bindings in the CICS Explorer workspace and those installed in CICS regions that Explorer is connected to

Java

CICS TS V4 Java

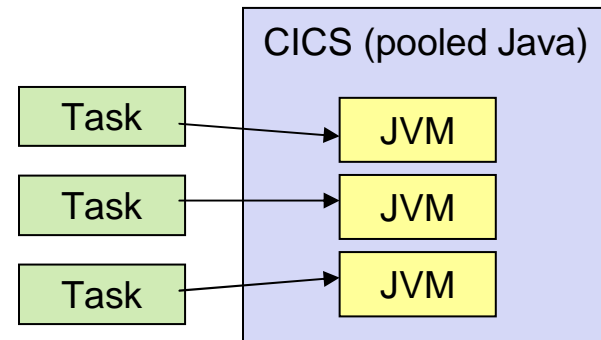
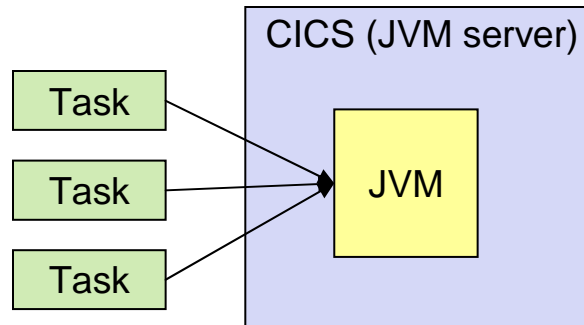
- Support for 64 bit JVMs
 - Both Pooled JVMs and JVMServers
 - Java stack and heap are now allocated in above the bar storage
 - Allows more Pooled JVMs per region
 - Java 6.0.1
 - IBM zEnterprise optimized version of Java 6 JVM
 - *Exploits new z196 instruction set*
 - *Improved GC*
 - *Improved JIT*
 - *Significant performance improvements*
- Support for 31 bit JVMs dropped

What is a JVM server...?



- **A new CICS resource containing a long-running JVM.**
- **The strategic direction of Java in CICS**
 - **Pooled Java will be discontinued in the future**
- **A JVM that serves multiple transactions concurrently.**
- **A JVM in which applications/tasks run as OSGi bundles.**

JVM server vs. existing Java support?



Single JVM - serves many tasks (reduced storage) (Concurrent, multi-threaded, up to 256 threads per JVM server)	Pool of JVMs - each serves only a single task.
T8 (CICS key)	Java Program Isolation
MAXTHRDCBS (automatically calculated), up to max of 1024 per region	J8 (CICS key), J9 (User key)
More standard Server model (+ data-sharing)	MAXJVMTCBS, SIT parm
Dynamic update and replace of modules	Difficult, convoluted to share data and state.
	JVMs must be restarted to effect changes

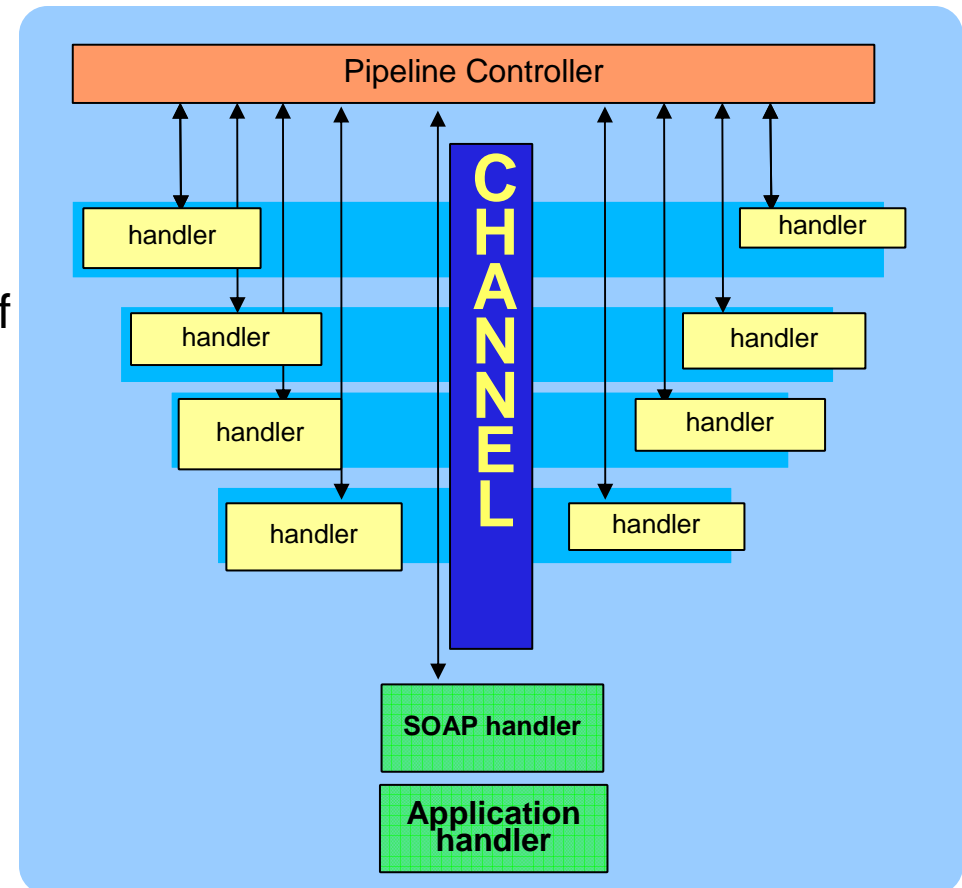
CICS TS V4 Java...

- OSGi
 - OSGi development and packaging now required to deploy CICS applications to a JVM server
 - Existing CICS Java applications using main() method linkage can run unchanged if wrapped in an OSGi bundle
 - All JVM server applications must be thread-safe and can't use stabilized CICS EJB or CORBA functions
 - Equinox used as OSGi implementation
- CICS Explorer SDK
 - Provides CICS Java development tool kit for use in any Eclipse 3.6.2 IDE
 - Can be used to develop and deploy applications for any release of CICS (CICS TS V3.2 onwards)
 - Java projects are developed as Plug-in Projects and then packaged in a CICS bundle and exported to zFS

Connectivity

Axis2 for Web Services

- Axis2
 - Java-based open source web services engine
- Axis2 Java SOAP message handlers
 - Axis2 SOAP processing and some of the CICS pipeline processing become eligible for zAAP offload
- Application handler written in Java
 - Executes in a JVMSERVER
 - Eligible for zAAP off-load processing
 - XML data conversion can be off-loaded

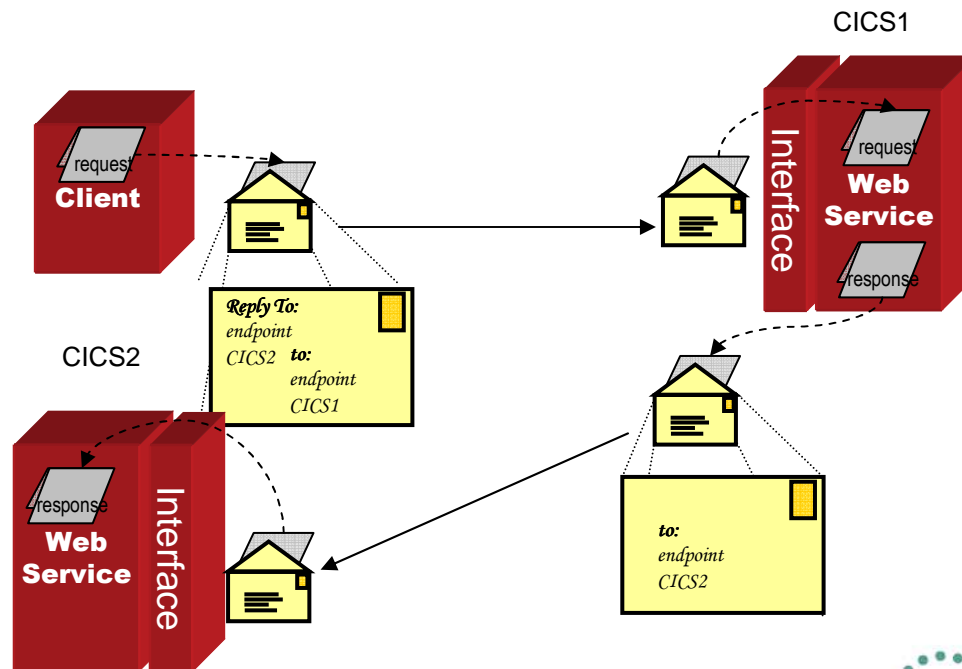


CICS Java applications as Web Services

- Deploy Axis2-style web services:
 - POJO as provider web services
 - Improve integration of CICS and Java applications for in-bound Web services
 - Pipeline can call directly to CICS service provider applications written in Java
 - Suitably written Java applications can interact directly with the Java object model of incoming messages, rather than containers used by traditional languages
 - Avoids cost of serializing to XML and parsing the XML
 - Axis2 pipeline handler will already have built the object model for the message

Web Service Addressing

- Defines transport neutral mechanisms to address Web Services
 - Facilitates message transmission through networks
- Consists of a SOAP Header describing
 - Endpoint Reference
 - Uniquely identify the service requested
 - Message addressing properties
 - Convey information about message relationships
 - Provide information on where messages are to be directed



CICS XML Extensions

- 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
 - Generates a language structure from a schema
 - Generates a schema from a language structure

Web 2.0: A Philosophy, not just a 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 integration
 - Technologies (SOAP, REST, JSON, ATOM, Java, PHP, D, etc), Ruby, Python, Perl, etc)



CICS Dynamic Scripting Languages FeaturePac

- Embed Zero programming model into CICS on z/OS
 - Script CICS assets using Groovy or PHP.
 - Build a web 2.0 AJAX presentation layer onto CICS Programs.
 - Expose CICS assets as RESTful services.
- Tight integration with existing CICS application assets and data
 - Easy and efficient access to COBOL assets
 - Inheriting CICS run time Quality of Service
- ProjectZero Features for CICS
 - Script in PHP, Groovy, Java
 - Respond to HTTP requests
 - Call CICS commarea programs from PHP or Groovy
 - Access DB2 databases from PHP, Groovy, ZRM
 - Call any JCICS interface from PHP or Groovy
 - Manage units of work (commit/rollback)
 - Use event handlers to easily create RESTful Web Services
 - Access any Java class from PHP code using the PHP/Java Bridge

Atom feeds from CICS

- 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 Real Simple Syndication (RSS)*
 - Simple publish/subscribe implementation
 - *Polling model*
 - *Based on http support*
 - Described by two Internet Request 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>***

IP Interconnectivity

- Continuation of the CICS IP interconnectivity strategy
 - Provide a new transaction IP communications protocol for connectivity between and into CICS
 - Long term plan to provide CICS with IP choice for most of the CICS programming model
- Enhancements to support 3270 Transaction Routing
 - BMS, security and monitoring support
 - Shippable terminals supported
- Enhancements to Function Shipping
 - File Control
 - Transient Data
 - Temporary Storage
- Enhancements to Asynchronous Starts
 - ATI over IPIC supported

CICS Support for IPv6

- IPv6 Background
 - Evolution of the current version of IP (IPv4)
 - Work started on this in the early 90's
 - IPv4 has 32 bit addresses
 - IPv4 address – 10.67.122.66
 - Practical limit: less than 1 billion useable global addresses
 - IPv6 has 128 bit addresses
 - IPv6 address – 2001:0db8:0000:0000:0000:0000:1428:57ab
 - No practical limit on global addresses
 - 2^{128} addresses
 - 5×10^{28} addresses for each of the 6.5 billion people alive today
- Allow for IPv4, IPv6 or host names in:
 - Resource definitions
 - Application Programming Interface
 - Systems Programming Interface
 - User Replaceable Modules
 - Global User Exits
 - Monitoring Records

HTTP Enhancements

- Inbound Throttling
 - Limit the number of connections to a specific TCPIP SERVICE
 - Implementation
 - MAXPERSIST parameter on the TCPSERVICE definition
 - *NO* | 1-65535
- Outbound Connection Pooling
 - Enables reuse of outbound http sessions
 - CICS web services applications
 - http EP adaptors
 - CICS web support applications
 - Requires the use of a client mode URIMAP to enable
 - New SOCKETCLOSE attribute specifies:
 - Length of time the socket will be kept in the pool
 - No pooling is achieved by specifying zero for a expiry time

DB2 Thread Reuse Limit

- Long running protected or unprotected DB2 threads
 - Can cause buildup in the DB2 EDM pool
 - This can lead to storage constraint problems
 - May force DB2 into a “short on storage” condition
- New REUSELIMIT option on the DB2CONN resource
 - Will limit the number of times a thread can be reused
 - Range of 0-10000, default 1000
 - Applies to both protected or unprotected threads
- New PURGECYCLE lower value (5 seconds)
- New DB2 statistics
 - Thread reuse limit
 - Number of times reuse limit reached (pool and entry threads)

WebSphere MQ support

- Updated CICS-WebSphere MQ Adapter to support WebSphere MQ V7
 - Supports 12 new MQ V7 API commands for message properties, publish subscribe, and asynchronous consume
 - Also available via APARs PK89844 and PK66866 for CICS TS V3.2
- Support for Group Attach
 - Allows common resource definitions for CICS regions
- Support for WebSphere MQ Group units of work recovery
 - Will be able to attach to any local WMQ server in the queue sharing group and have it resolve outstanding UOWs

This option can be used only when running a release of WebSphere MQ that supports group unit of recovery for CICS and when the GROUPUR attribute has been enabled in the WebSphere MQ queue managers.

Management

CICS TS V4 Management Enhancements

- Transaction Tracking
 - As the name implies....
 - Follow the path of a transaction through the system
 - Provide means to track and correlate the progress of
 - Simple linearly routed tasks, asynchronous tasks, spawned CICS tasks
 - *Across distributed CICS systems including over CICS managed TCP/IP*
 - Extends and uses Association data
 - Previous hop, association data and origin data for both MRO and IPIC connections
 - Expose tracking information via CICS Explorer
 - Helps to answer questions like
 - Why is this transaction suspended?
 - Where was this transaction routed to?
 - What was the point of origin for this transaction?

CICS TS V4 Management Enhancements...

- Sysplex optimization to significantly reduce workload batching effects
 - Exploitation of z/OS coupling facility for CPSM region status data
 - “Near real time” Sysplex-wide focus on target region status
 - No impact to “non-optimized” WLM
 - Optimized WLM routing enabled by configuring a Region Status Server
 - Uses CF Data Table to hold Region Status information
 - *SOS, MaxTask, System or transaction dump in progress, Current Tasks*
 - *Shared by all routing regions (in the Sysplex)*
- Percentile goals
 - CICSplex SM WLM support for percentile goals
- Support in CICSplex SM for all new resources, statistics, etc

CICS TS V4 Management Enhancements...

- Password Phrase Support
 - Background
 - Introduced in z/OS 1.8
 - *14-100 character password phrases*
 - Updated in z/OS 1.9
 - *9-100 character password phrases if ICHPWX11 installed*
 - Alternative to traditional passwords
 - *Improved system security - harder to attack*
 - *Easier to remember*

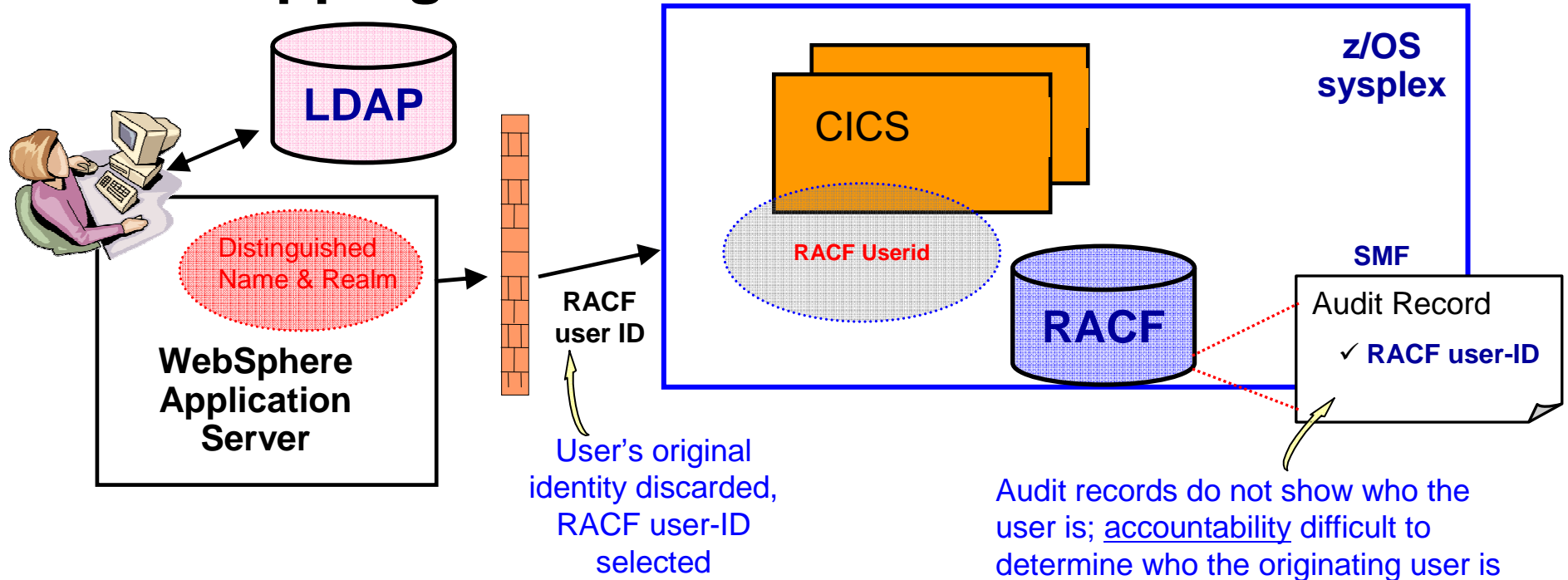
CICS TS V4 Management Enhancements...

- CESL transaction
 - New transaction to sign on to CICS using a password or a password phrase
 - Supports both 3270, Sequential and Console devices
 - Does not support 40x12 size screens
 - CESN will remain unchanged
- CEDF transaction
 - Changed to hide passwords or password phrases
- Additional functions that support password phrases
 - CMCI
 - CICS Explorer
 - Web Interface
 - Web Services
 - LDAP (supports a long password)
 - CPSM Web User Interface

CICS TS V4 Management Enhancements...

- z/OS Identity Propagation initiative to provide asserted identity for end-to-end distributed security
 - Logically tie together distributed end-user identities with z/OS userids
 - Enhance the ability for z/OS applications to participate centrally in SOA solutions
 - Function will require z/OS 1.11
- ID Context Propagation allows an end user's identity to be propagated through to CICS
 - Currently, the end users' identity is lost before the request gets to CICS

Current Implementation of User Identity and Mapping



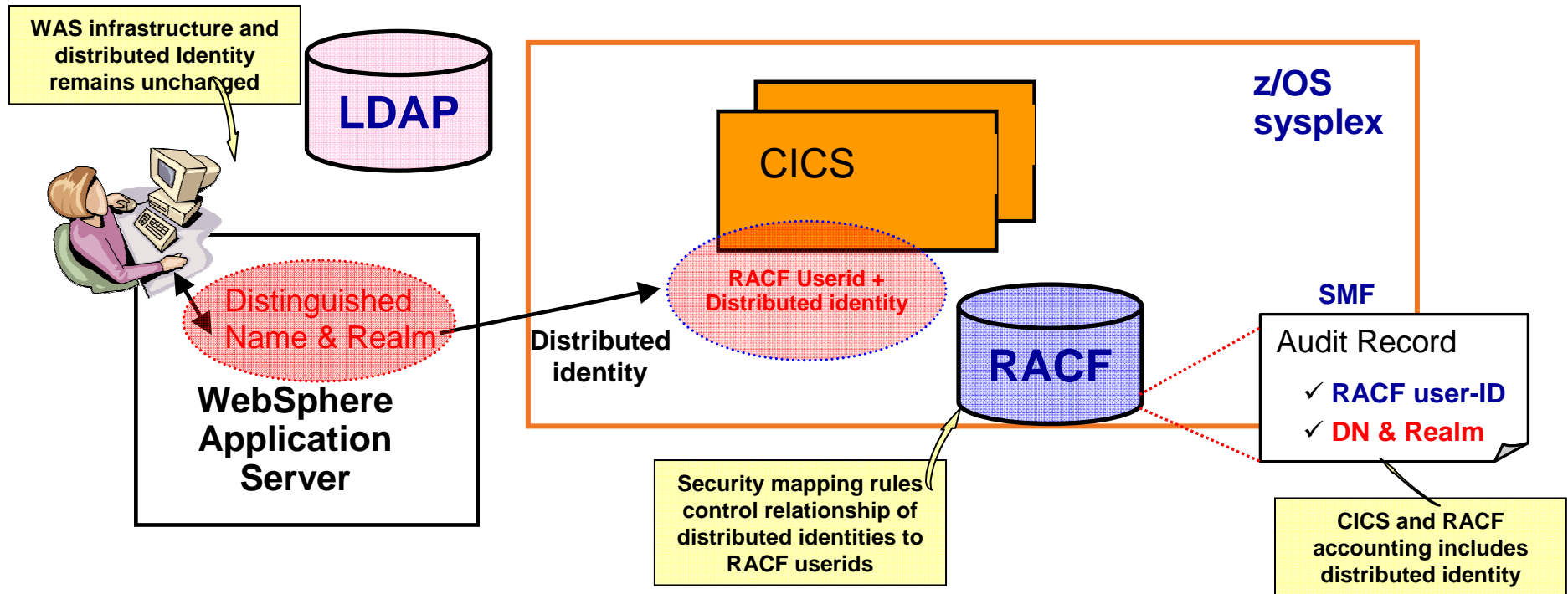
- Distributed identity information is lost when request sent to RACF

Static RACF userid must be associated with the application

Identities often 'asserted' so that passwords do not need to be managed

- 40 Custom security code often created to map distributed identity to RACF userid

Implementation of Identity Context Propagation



- Propagates end user's identity from WAS through to CICS
- Scenarios for identity propagation
 - Inbound to CICS from WebSphere Application Server through CICS TG
 - Inbound to CICS as a WS-Security header element in a Web services request
 - Propagating out across IPIC and MRO connections between CICS systems

CICS TS V4 Management Enhancements...

- Resource definition signature attributes added to CICS resources
 - Signature data added when you add/alter a resource
 - DEFINESOURCE
 - DEFINETIME
 - CHANGETIME
 - CHANGEUSRID
 - CHANGEAGENT
 - CHANGEAGREL
- Resource installation signature attributes added to CICS resources
 - Signature data added when you Install a resource
 - INSTALLAGENT
 - INSTALLTIME
 - INSTALLUSRID

Scalability

CICS TS V4 Scalability Enhancements

- CICS and 64-Bit
 - *CICS Transaction Server for z/OS V4 contains significant changes to the CICS domain architecture that exploits the underlying z/Architecture for 64-bit addressing and provides the infrastructure for CICS domains to utilize and exploit 64-bit addressing mode.*
 - *Enables CICS to remove some of the limitations that affected scalability and availability by delivering large address spaces*
 - *CICS can now make use of 64-bit virtual storage to increase capacity by supporting a larger number of concurrent users and transactions, as well as keeping up with virtual storage demands*

CICS TS V4 Scalability Enhancements...

- Domain Re-architecture
 - Some CICS Domain components running AMODE(64)
 - Kernel Domain
 - Storage Manager Domain
 - *Including some code which manages CICS storage below the bar*
 - Trace Domain
 - Message Domain
 - Lock Manager Domain
 - Temporary Storage Domain
 - Monitoring Domain

CICS TS V4 Scalability Enhancements...

- 64-bit exploiters
 - CICS Trace Domain
 - Internal Trace Tables above the bar
 - *Internal Trace Table in 64-bit storage only ...*
 - *if CICS Transaction Isolation inactive (TRANISO=NO) or*
 - *if CICS running on z/OS 1.12 with APAR OA34311 applied*
 - Transaction Dump Trace Table in 64-bit storage
 - Trace control blocks in 64-bit storage
 - *Auxiliary and GTF Buffers moved from 24-bit to 31-bit storage*
 - 64-bit GTF Trace (OA32611 required for z/OS 1.11 & 1.12)
 - CICS Message Domain
 - CICS Message tables are above the bar (subject to TRANISO restriction)

CICS TS V4 Scalability Enhancements...

- 64-bit exploiters...
 - CICS Dump Domain
 - 64-bit storage SDUMP support
 - *Requires z/OS APAR OA32271 (z/OS 1.11 and 1.12)*
 - *Use is now made of z/OS IARV64 DUMPRIORITY option*
 - CICS Monitoring Domain
 - Association Data control blocks are above the bar (subject to TRANISO restriction)
 - CICS Java
 - Updated to 64-bit JVM (Java 6.0.1) for Pooled and JVMServer
 - *31-bit Java not supported*

CICS TS V4 Scalability Enhancements...

- 64-bit exploiters...
 - CICS Temporary Storage Domain
 - MAIN TS above the bar (subject to TRANISO restriction)
 - *Limiting MAIN Temporary Storage use*
 - *SIT parameter: TSMMAINLIMIT={64M|amount}*
 - *Maximum is 32G, not greater than 25% of z/OS MEMLIMIT*
 - Many Temporary Storage control blocks above the bar
 - Automatic TS Cleanup
 - *EXPIRYINT can be specified on a TSMODEL definition*
 - *Applies to MAIN TS Queues and non-recoverable AUX TS Queues*
 - *Does NOT apply to:*
 - *Remote TS Queues, Recoverable AUX TS Queues*
 - *Shared TS Queues, CICS internal TS Queues*
 - *TS Queues that don't match a TSMODEL*

CICS TS V4 Scalability Enhancements...

- DFHMIRS is now Threadsafe
 - Supplied definition now specifies CONCURRENCY(THREADSAFE)
- IPIC transformers are now threadsafe
 - Non IPIC code remains non threadsafe
- Only requests function shipped over IPIC will run on an Open TCB
 - File Control
 - Temporary Storage
 - Distributed Program Link
 - If the target program is defined as threadsafe and the mirror already on an open TCB

CICS TS V4 Scalability Enhancements...

- CICS-DBCTL interface will use OTE when connected to IMS 12
 - At connect time CICS & IMS determine if each other can support OTE
 - With IMS 10 & 11
 - CICS-DBCTL TRUE enabled as QUASIRENT
 - Toleration APAR PM31730 (IMS 10), PM31729 (IMS 11)
 - With IMS 12
 - CICS-DBCTL TRUE enabled as OPENAPI
 - Exploitation APAR PM31420 is required
- At General Availability of CICS TS V4, IMS 12 is available through a Quality Partnership Program (QPP).
 - For more information: <http://www.ibm.com/software/data/ims/>

CICS TS V4 Scalability Enhancements...

- Commands now made threadsafe
 - EXEC CICS SYNCPOINT
 - EXEC CICS SYNCPOINT ROLLBACK
 - EXEC CICS RESYNC
 - JCICS
 - COMMIT and ROLLBACK methods
- Non-threadsafe Recovery Manager clients will force a switch to the QR TCB
 - Switch to QR made by the Recovery Manager
 - Examples:
 - MRO, Transient Data, etc
- Recovery Manager clients may force an internal switch to the QR TCB
 - Switch to QR made by the client
 - Examples:
 - File control for BDAM files
 - RMI for a quasi-reentrant TRUE

CICS TS V4 Scalability Enhancements...

- Other APIs made threadsafe
 - QUERY SECURITY
 - SIGNON, SIGNOFF
 - VERIFY PASSWORD, VERIFY PHRASE
 - CHANGE PASSWORD, CHANGE PHRASE
- EXTRACT TCPIP, EXTRACT CERTIFICATE
- All CALL and EXEC CICS Name Counter Server commands
- Built in functions for DIGEST and DEEDIT

CICS TS V4 Scalability Enhancements...



- New SPI commands that are threadsafe:
 - INQUIRE CAPDATAPRED, INQUIRE CAPINFOSRCE, INQUIRE CAPOPTPRED
 - INQUIRE EPADAPTER, SET EPADAPTER
 - INQUIRE OSGIBUNDLE, INQUIRE OSGISERVICE
 - INQUIRE TEMPSTORAGE, SET TEMPSTORAGE
- Existing SPI commands made threadsafe:
 - INQUIRE CLASSCACHE
 - INQUIRE JVM
 - INQUIRE JVMPOOL
 - INQUIRE JVMPROFILE
 - PERFORM CLASSCACHE
 - PERFORM JVM POOL
 - SET CLASSCACHE
 - SET JVMPOOL

CICS TS V4 Scalability Enhancements...

- CICS historically has allowed use of 8 LSR pools
 - In the days of local DLI, DLI used the other 8
 - When local DLI was removed, CICS File Control was not changed
- Since z/OS 1.4, DFSMS have allowed up to 256 lsr pools per address space.
- In CICS TS V4 we will allow use of 255 LSR POOLS (1-255)
 - Will not use pool 0
- Potential performance optimization where greater subdivision of files across LSR POOLS is required
 - e.g. Place highly-used files in their own LSRPOOL

Summary

Events



- **Discover Faster**
- **React Quicker**
- **Compete Better**

Management



- **Understand More**
- **Control Better**
- **Manage Easier**

Java

- **Perform Better**
- **Manage Easier**
- **Innovate Quicker**



Scalability

- **Process More**
- **Lower Costs**
- **Perform Better**



Connectivity



- **Connect Easier**
- **Lower Costs**
- **Manage Better**

***Delivering a smarter
transaction processing
experience for everybody***

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