

CICS V5.1

Operational Efficiency and Service
Agility with Cloud Enablement



An introduction to...

...CICS Transaction Server V5.1

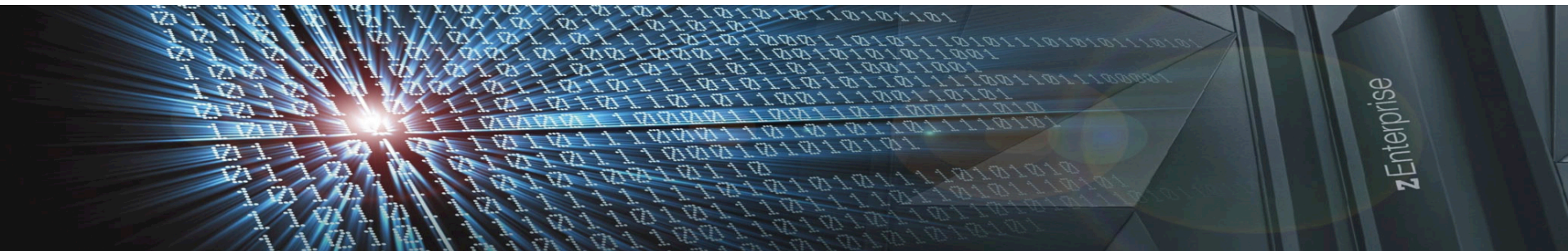
CICS Transaction Server continues to power the planet

- CICS TS is the world's premier enterprise class transaction processor
- CICS TS enables customers to create and maintain a competitive advantage
- CICS TS continues to deliver innovative and essential new technologies

Large scale business critical workloads, some > 1bn transactions per day

Many of the worlds largest companies run their business on CICS

CICS web services is the most widely adopted CICS feature in recent history



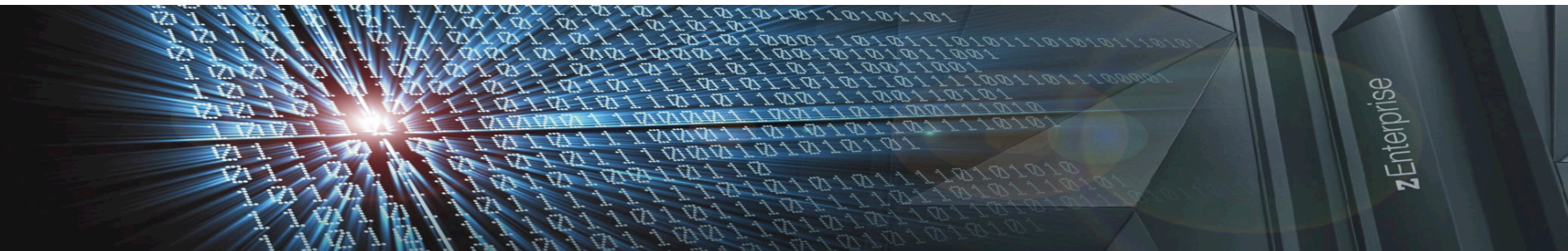
Focus on solving three key customer challenges

- Ongoing operational pressure to drive down costs and improve efficiency
- Increased business pressure to deliver faster and with greater agility
- Ability to manage and exploit the rapidly changing technology landscape

*Operation Efficiency:
Controlling cost*

*Service Agility:
Deliver results faster*

*Cloud Enablement:
A long term investment*




The new CICS Transaction Server V5.1 delivers...



Operational Efficiency

- *Greater capacity* - achieve cost savings through consolidation
- *Managed operations* - reduce cost and risk through automation
- *Increased availability* - reduce the need for planned downtime
- *Deeper insight* - Improve decision making and audit readiness



100+
requirements
satisfied!

Service Agility

- *First-class applications* - create agile services from existing assets
- *First-class platforms* - create agile service delivery platforms
- *Modern interfaces* - build rich web experiences for critical applications
- *Foundational enhancements* - extend core capabilities

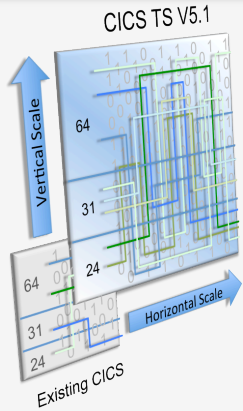
... with *Cloud Enablement*

consistent with the IBM Cloud Computing strategy
positions customers for the next transformational era in technology
moves towards a cloud oriented service delivery platform

CICS TS V5.1 : Driving Operational Efficiency



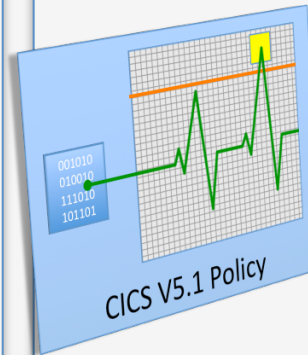
Greater Capacity



Achieve cost savings through consolidation



Managed Operations



Reduce cost and risk through automation



Increased Availability



Reduce the need for planned downtime



Deeper Insight



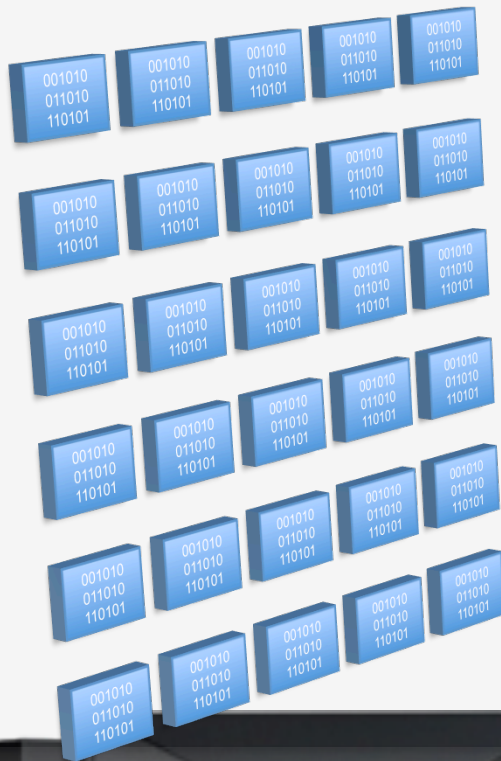
Improve decision making and audit readiness



Greater Capacity – Achieve cost savings through consolidation

IBM Lab benchmark demonstrated...

- **Consolidate 30 regions down to 10***
- **Decrease CPU usage by 10%***
- **Reduce the management burden by 2/3***
- **Maintain the same workload***



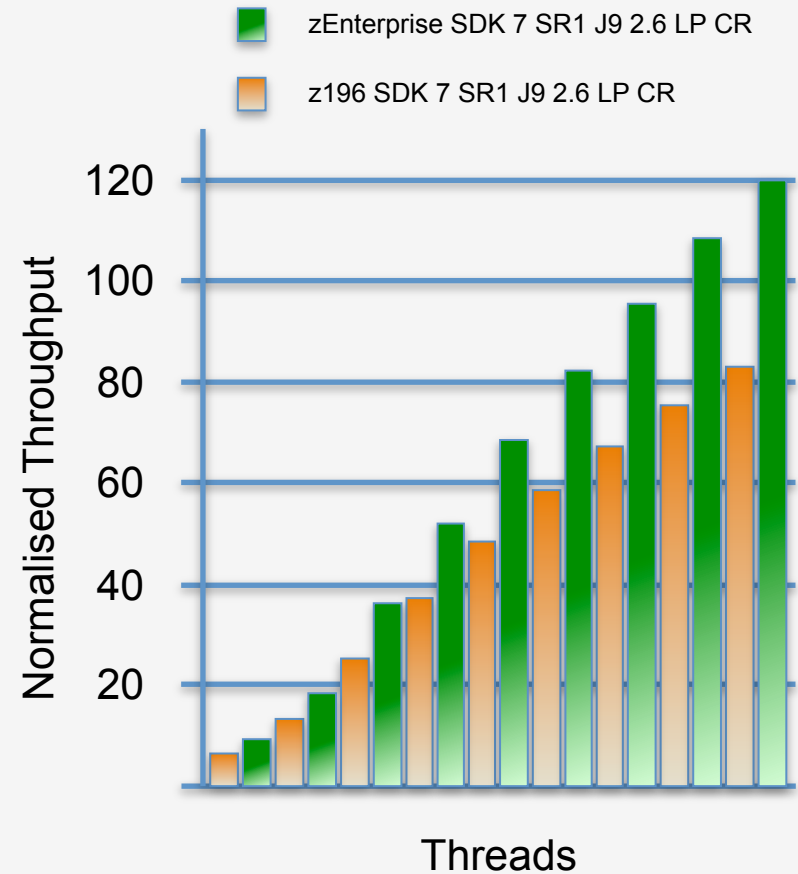
***Test conducted under lab conditions – For further information contact IBM**



Performance improvements from Java 7 support

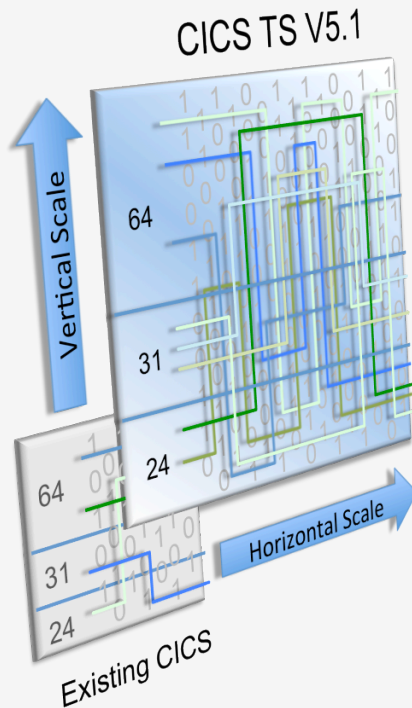
The latest JVM delivers a performance boost...

- zEnterprise EC12 offers a ~45% improvement over z196 running the Java Multi-Threaded Benchmark
- EC12 has additional instructions specifically for Java





Greater capacity - Achieve cost savings through consolidation



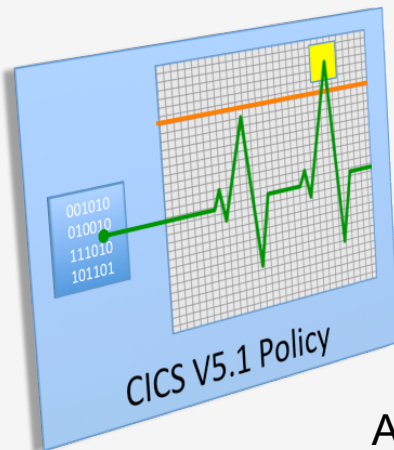
Feature	Benefit
Doubled MAXTASK limit to 2000 and optimized storage area usage	Greater vertical scalability
Optimized TCB usage and greater threadsafe capability	Greater horizontal scalability
Support for the latest Java 7 standard	Greater throughput
Access to 64-bit storage from assembler programs	Application level access to big data



Managed operations - Control critical resource thresholds with policies

Protect critical systems

- “*Abend* any *task* running on the Retail Banking region that tries to request any 24-bit storage”
- “I want to see a *message* if a *task* allocates more than 1MB of storage in this region”
- “Trigger an *event* if a shopping-cart browse *task* generates more than 500 SQL requests”



Threshold breach

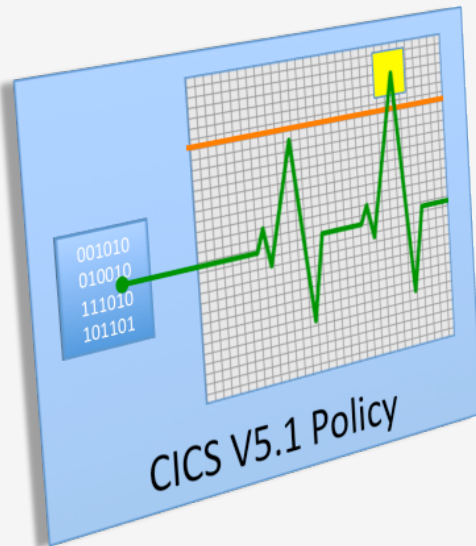
CICS Triggers an action



An XML Policy document defines the threshold and action



Managed Operations - Reduce cost and risk through automation



Feature	Benefit
New declarative policy	Define and manage SLAs
Set policy thresholds on <ul style="list-style-type: none"> • CPU usage • Storage used and GETMAIN • SQL or file access • EXEC LINK 	Critical resource protection
Issue message, abend a task, or emit an event on policy breaches	Automatic response to undesired behavior



Increased availability - Reduce the need for planned downtime

Feature	Benefit
SVC dynamic update utility	Upgrade without z/OS IPL
SSL refresh	Update SSL without region restart
IPIC Heartbeat	Maintain IPIC connections during periods of inactivity
EXCI XCF group selection from URM	Full region availability from EXCI across XCF groups
Replication logging support	IBM GDPS/AA readiness
Improved default values	Best practices configurations





Deeper insight - Improve decision making and audit readiness

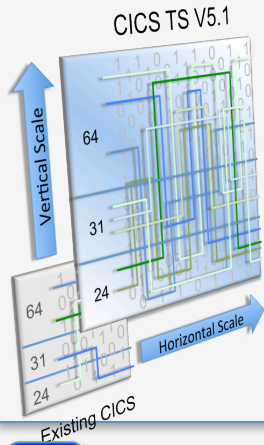


Feature	Benefit
Logging of system configuration changes via SPI	Auditable system configuration changes
Specify that a full ID verification occurs	Accurate data stored for audit
Extended identity propagation to include started tasks	Improved end-to-end security and auditability
SMF now stores SSL cypher suite and specialty engine usage data	Better understanding of system performance
Notification during lost lock recovery	Understand progress of lock recovery
Logging of system configuration changes via SPI	Auditable system configuration changes

CICS TS V5.1 : Driving Operational Efficiency



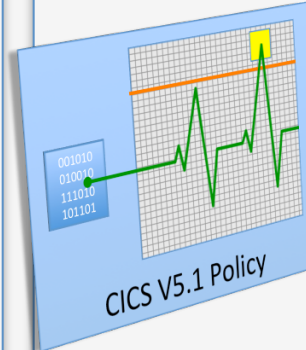
Greater Capacity



- Doubling the MAXTASK limit to 2,000
- Increased 64-bit and reduced 24-bit storage usage
- Greater parallelism from threadsafe API and SPI
- Greater system parallelism through optimized TCB usage
- Performance improvements from 64-bit Java 7
- Greater access to 64-bit storage from Assembler programs



Managed Operations



- Automated control over critical system resources
- Set data access thresholds on SQL or file access
- Set program loop thresholds on EXEC LINK
- Set storage request thresholds
- Set CPU time thresholds
- Policies can issue messages, abending tasks, or create events



Increased Availability



- Upgrade CICS versions and releases without requiring a z/OS restart
- Refresh Secure Sockets Layer (SSL) certificates
- Keep IPIC connections up and running
- Support more IBM GDPS/AA solutions
- Dynamically specify cross-system coupling facility groups
- Better reflect current best practices with updated and simplified defaults



Deeper Insight

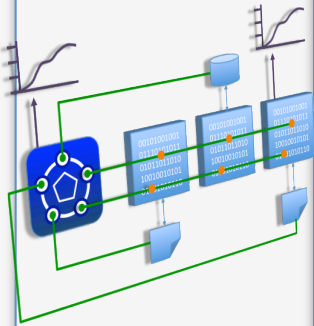


- Auditing of SPI commands that alter the system
- Improved auditing of user IDs that make requests over IP
- Extended identity propagation to include started tasks
- Cipher suites used for SSL connections to be stored in the performance records
- Calculation of the actual and potential use of specialty processors
- Regular status updates provided while lost locks recovery is taking place

CICS TS V5.1 : Increasing Service Agility



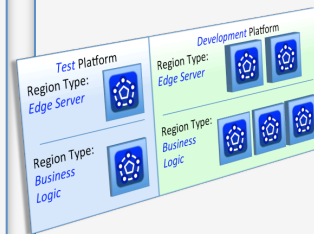
First-class Applications



Create agile services from existing assets



First-class Platforms



Create agile service delivery platforms



Modern interfaces



Build rich web experiences for critical applications



Foundational Enhancements



Extend core capabilities



First class applications - Create agile services from existing assets

Feature

New declarative application resource

Benefit

Combine and manage disparate application resources as a single entity

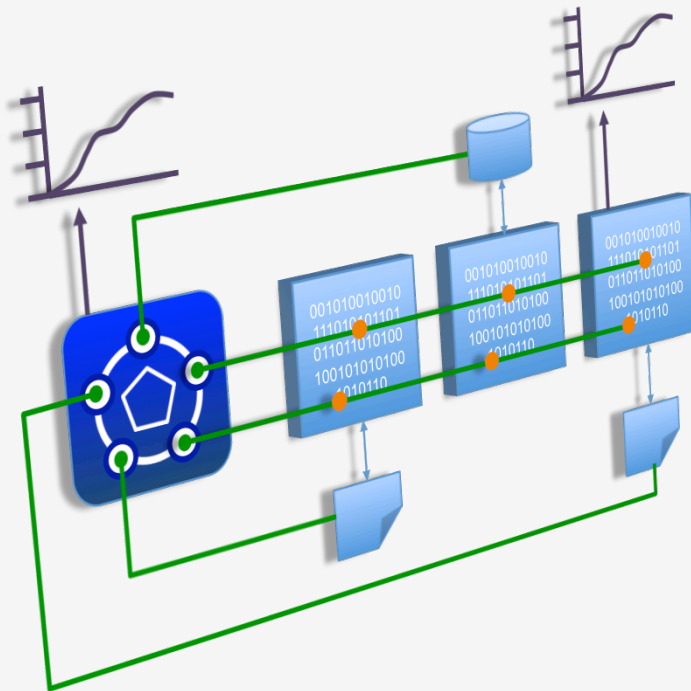
Rapidly move versioned applications through development, test and production

Automate dependency management throughout the application lifecycle

Ensure rigorous yet flexible provisioning with application bindings

Measure entire application resource usage for tracking and internal billings

Dynamically manage applications by applying policies during runtime

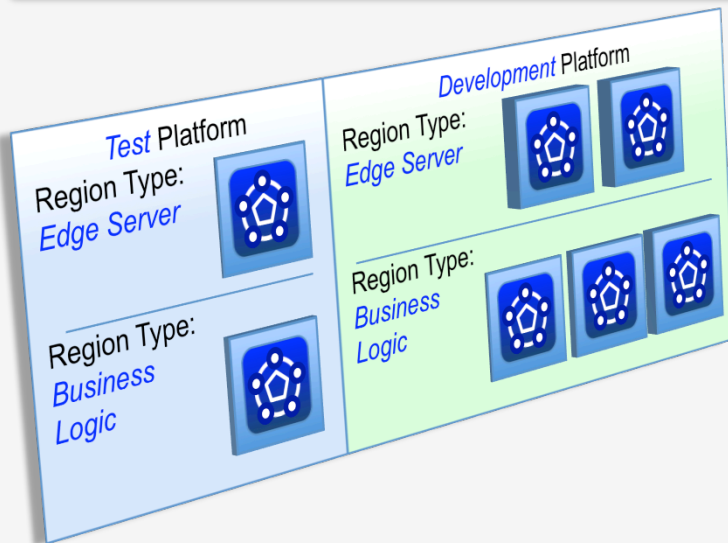




First class platforms - Create agile service delivery platforms

Feature

New declarative platform resource



Benefit

Group new and existing regions as platforms for rapid application deployments

Increase flexibility, by decoupling applications from the underlying CICS region topology

Increase reliability through automatic resource deployment and validation

De-provision resources when requested, without requiring any interaction from a system administrator

Deploy applications to started regions within a platform, without requiring any interaction from a system administrator

Dynamically manage platforms by applying policies during runtime



Application

Faster & easier deployment of CICS applications & resources

- “*Abend* any *application* running on the Retail Banking region that tries to request any 24-bit storage”



Platform

Faster & easier management of CICS application environment

- “I want to see a *message* if an *application* allocates more than 1MB of storage on this *platform*”



Policy

Respond faster to unwanted behaviour

- Dynamically update policies at runtime to manage changing workload characteristics

Service Agility, development scenario...

FASTER

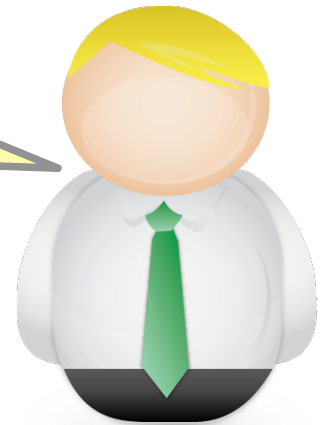


"Hey Simon, I need to test my new version of the payroll **application**."

"Sure Abigail, you should get the latest payroll test **platform** from the repository, I'll send you a link."

"Thanks, I'll **deploy my app** onto that platform on the development plex later today."

"That should be fine, just check with Oliver that the **policies** on the plex are going to be OK for your app's changes."



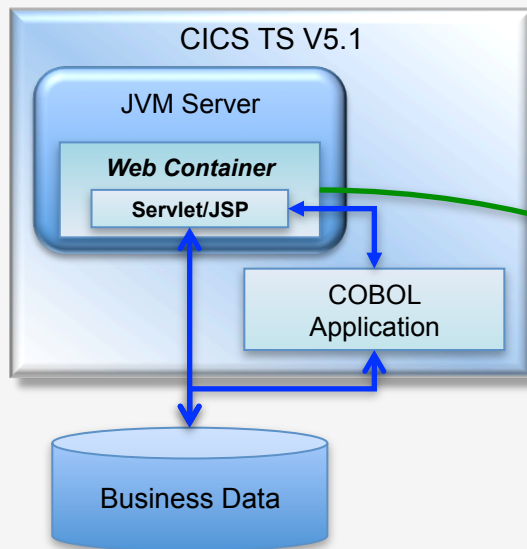
SIMPLER



Modern interfaces - Build rich web experiences for critical applications

Feature

Embedded web container for Servlets & JSPs



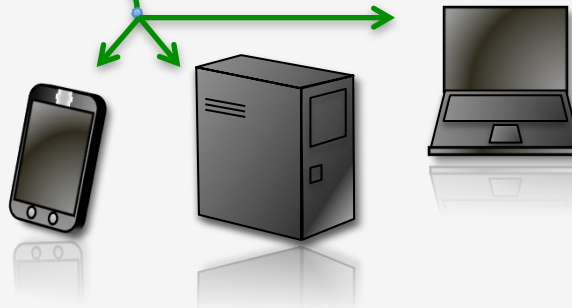
Benefit

Deployment of lightweight Java servlets and Java Server Pages (JSP)

Improved performance through local access to CICS applications and data

Rapid roll-out of interface updates through OSGi-packaged deployments

Full integration with first-class applications and platforms





Foundational enhancements - Extending core CICS capabilities



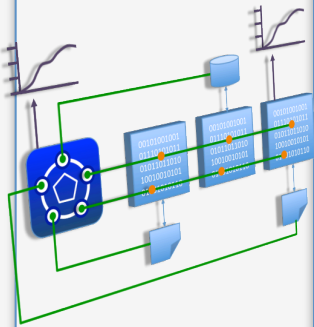
Feature	Benefit
Enhanced CICS event support	One-to-many event emissions
WebSphere MQ Dynamic Program Link (DPL) bridge support message >32KB	No restrictions on MQ DPL message size
IPIC support for IMS	Improved integration and error recovery
GET and PUT container enhancements	Reduce application storage needs
Backup and restore capability for entire CICSplex System Manager (CICSplex SM) systems without manual overrides	Improved automation
Automatic daylight saving adjustments	No need to restart CICS regions

CICS TS V5.1 : Increasing Service Agility



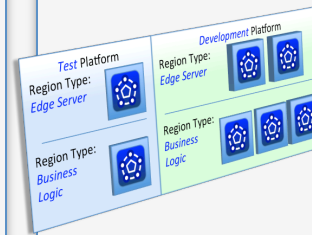
First-class Applications

- Manage disparate resources as a single entity
- Rapidly move through the application lifecycle
- Automate dependency management
- Ensure rigorous yet flexible provisioning
- Measure entire application resource usage
- Dynamically manage applications with policies



First-class Platforms

- Group new and existing regions as platforms
- Decoupling applications from the region topology.
- Automatic resource deployment and validation
- De-provision resources when requested
- Deploy applications to regions within a platform
- Dynamically manage platforms with policies



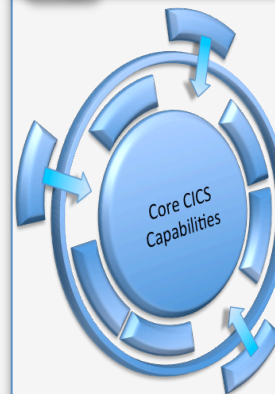
Modern Interfaces

- A production-ready web container
- Deploy lightweight Java servlets and JSPs
- Local access to CICS applications and data
- Roll-out of interface updates through OSGi
- Integration with applications and platforms
- Built on WebSphere Application Server Liberty profile for compatibility



Foundational Enhancements

- CICS supports "one-to-many" event emission
- Greater-than-32KB across MQ (DPL) bridge
- Enhancements to IPIC add IMS support
- Reduced application storage needs with GET and PUT container
- Backup and restore entire CICSplex System Manager (CICSplex SM) systems
- Automatic adjustment of the CICS clock for daylight saving time changes





Moving towards a cloud oriented service delivery platform

3 simple steps to cloud enablement...

1. Define your platform encapsulating your existing regions
2. Define your applications, entry points, and dependencies from existing assets
3. Deploy your applications onto your platform

With cloud enablement you can...

- Bring the flexibility of cloud deployment to your existing CICS assets
- Easily measure resource usage of your CICS business applications
- Dynamically control your CICS applications and infrastructure at runtime



Application

Create agile services from existing assets



Platform

Create agile service delivery platforms



Policy

Control critical resource thresholds with policies