6 Eylül 2012 Rixos Pera İstanbul

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WAS 8.5 Update

Agenda

- WAS 8.5 main components
- Liberty Profile introduced ★
- WebSphere Batch, Virtual Enterprise, XD included
- XCT log browser
- Selectable Java SDK (6 or 7) – Java 7 info
- IBM Support Assistant included (ISA)

WebSphere Application Server
14 years of Leadership and Trusted delivery

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WAS 8.5 main components

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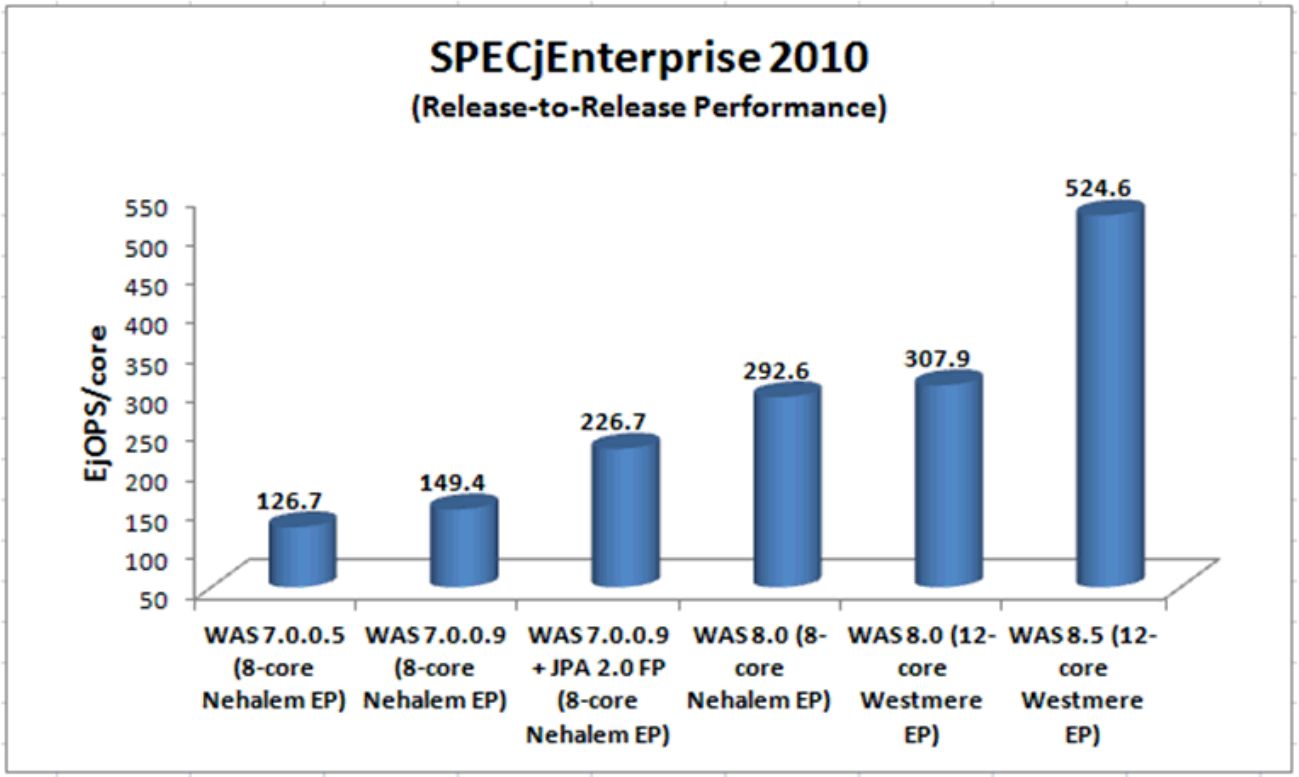
WebSphere Release-to-Release Performance



Consistent Performance gains across WAS Releases

As per SPEC Published Data
http://www.spec.org/jEnterprise2010/results/jEnterprise2010.html

Introducing the ‘Liberty’ Profile

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What is the ‘Liberty’ Profile?

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What is the ‘Liberty’ Profile?

What is the ‘Liberty’ Profile?

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Liberty and traditional/full profile

Liberty Profile on z/OS

The WAS for z/OS Liberty profile is the Liberty profile with *optional* extensions for z/OS

- z/OS specific functions are modeled as independently enabled *feature sets*
- Simple configurations that require no active z/OS exploitation can run in a completely unauthorized environment
- Advanced configurations allow for active exploitation of z/OS services and tight platform integration
- Enables fine grained access control to authorized services

Liberty is a single process, 64-bit only application server

- Traditional split-process runtime remains a part of the product
- Administrators choose which profile to deploy
- Liberty offers a subset of the traditional programming model

An *Angel* process enables the use of authorized code in the server process

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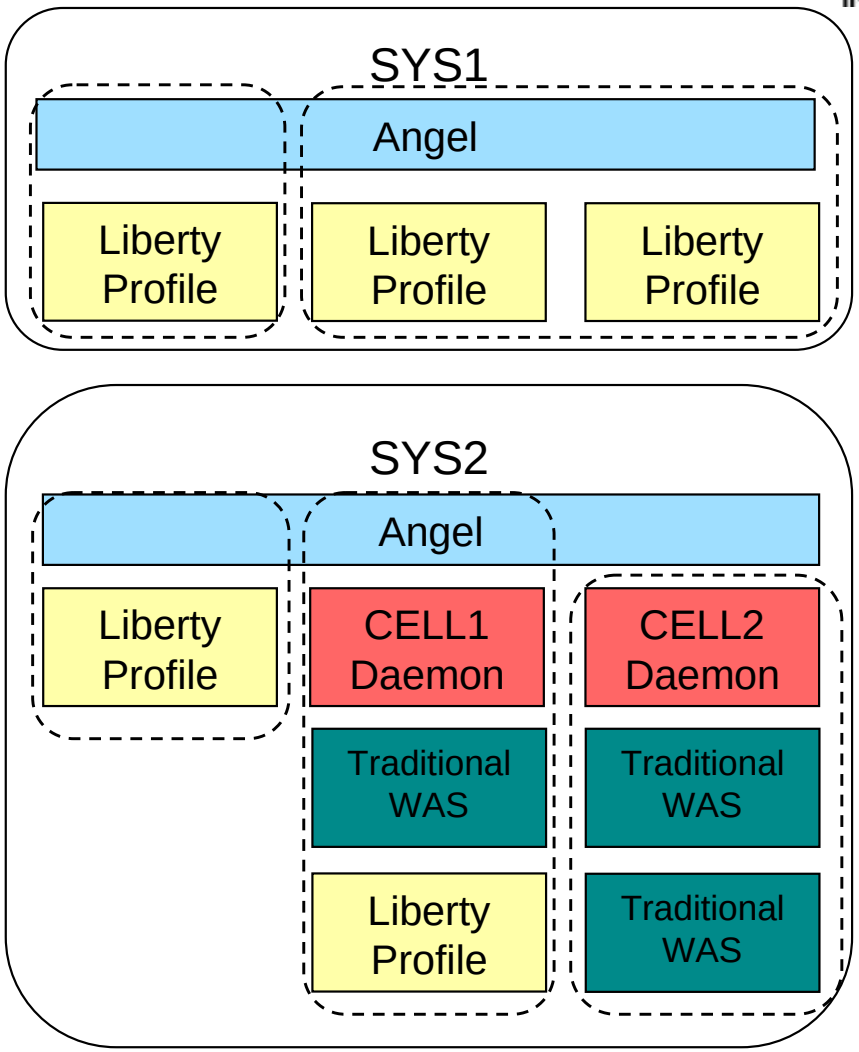
Liberty for z/OS – Process structure

- *Angel* – the authorized agent
  - Extremely light-weight started task
  - Required to bootstrap servers that use authorized system services
  - Single instance per system image regardless of WAS topology
  - No configuration to manage
  - No code level dependency between angel and server
- Liberty Profile Application Server
  - Managed as a started task with a native launcher
  - Uses agent owned PCs to setup environment necessary to run authorized system services
  - Infrastructure is based on distributed code
  - All authorized z/OS extensions optional (Pay as you go)
- Traditional WAS
  - Split process, needs daemon infrastructure



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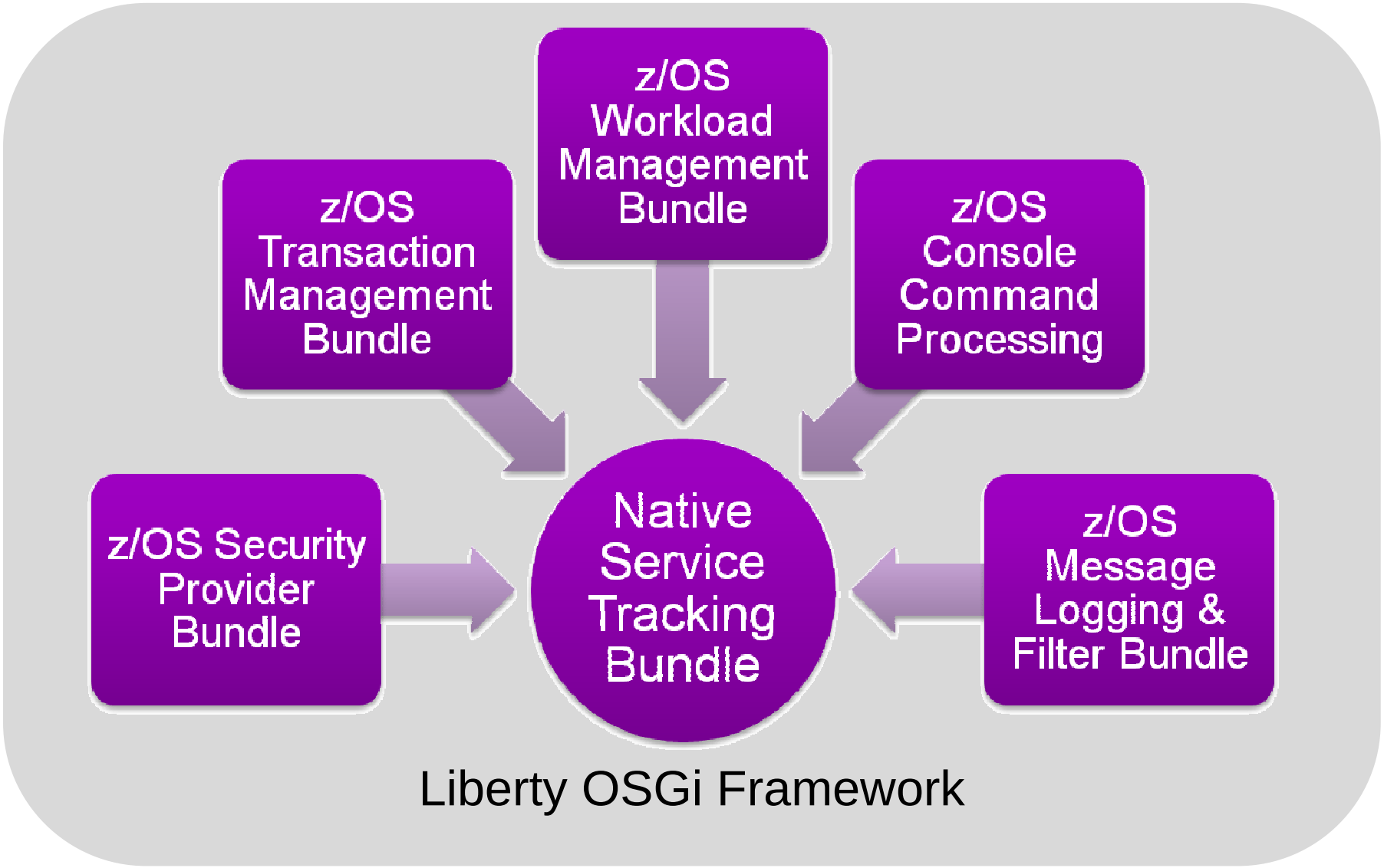
Liberty for z/OS – Feature sets



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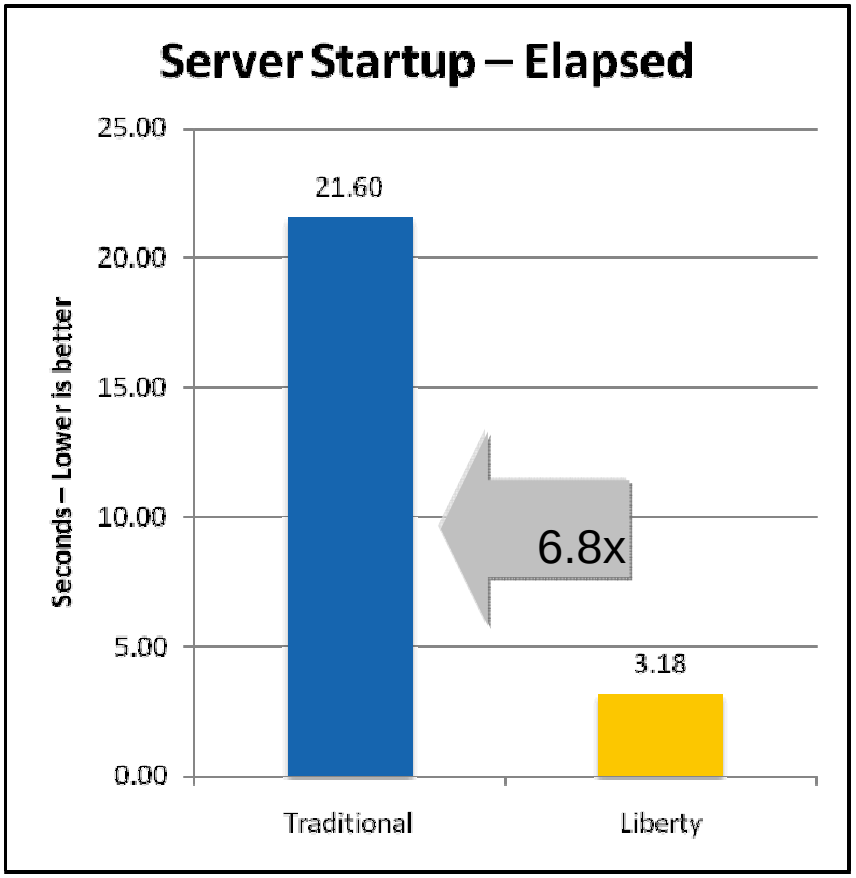
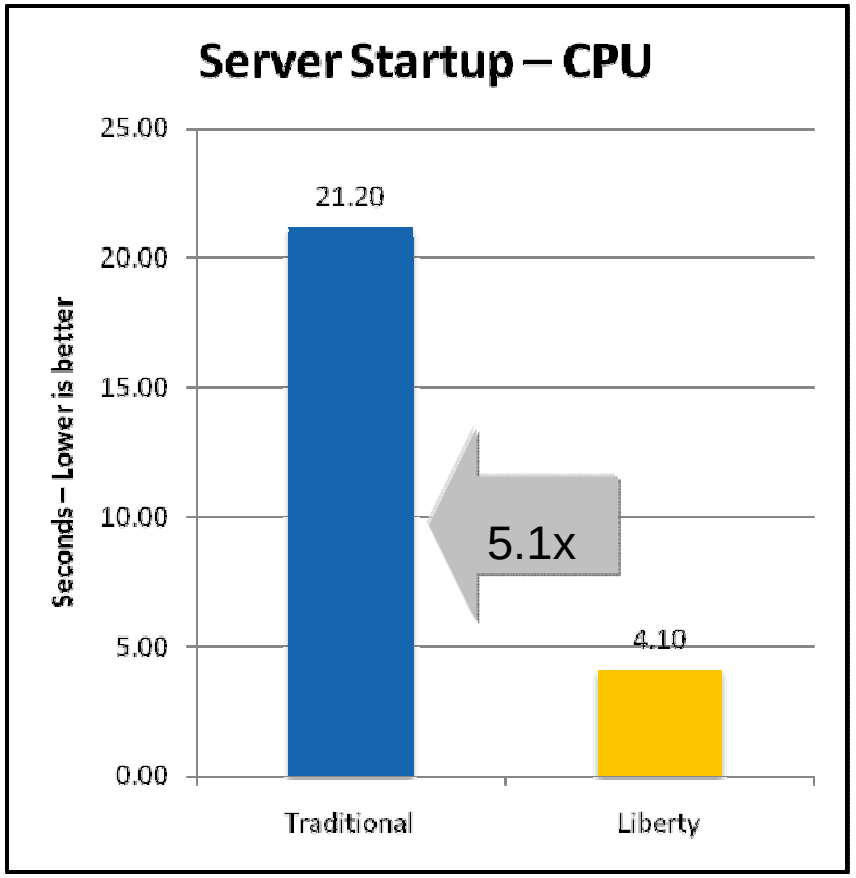
Liberty on z/OS – start-up time

Performance: Start-up time – 3.2 seconds!





- Liberty – 64bit IBM Java 6.0.1, 64/64MB min/max heap, 60MB shared class cache, TradeLite installed
- Traditional – 64bit IBM Java 6.0.1, 1SR,128/256MB min/max CR heap, 256/512MB min/max SR heap, 75MB CR shared class cache, 75MB SR shared class cache, no applications installed

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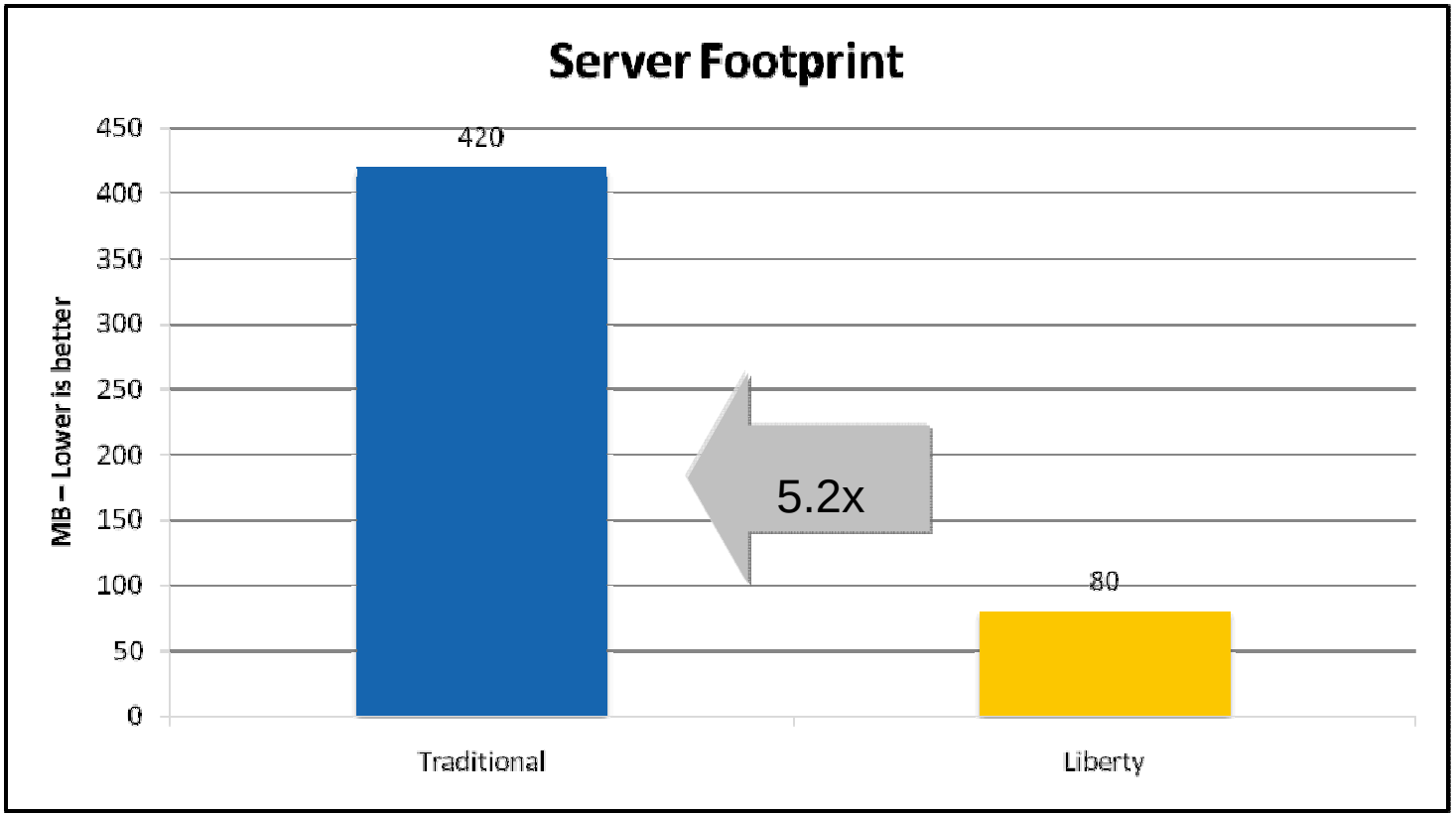
Liberty on z/OS – memory footprint

Performance: Memory footprint – 80% reduction



- Liberty – 64bit IBM Java 6.0.1, 64/64MB min/max heap, 60MB shared class cache, TradeLite installed
- Traditional – 64bit IBM Java 6.0.1, 1SR,128/256MB min/max CR heap, 256/512MB min/max SR heap, 75MB CR shared class cache, 75MB SR shared class cache, no applications installed

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Virtual Enterprise, WebSphere Batch, XD included

(now part of WAS 8.5 ND)

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WebSphere Batch (Compute Grid) included in WAS 8.5

"Modern Batch": Job Scheduler & Endpoint Server

Function Equivalent to WebSphere XD Compute Grid V8

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Virtual Enterprise included in WAS 8.5

“Intelligent Management”

Integration of 4 autonomic features :

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Application Edition Management included in WAS 8.5

- **Multiple Editions of an Application in a WebSphere cell**

  Interruption-free rollout of application updates

  Ability to “roll back” to a previous application version

  “Validation mode” to verify functionality with subset of users

- **Edition = “Instance of an J2EE application” (i.e., version)**

  Each edition is numbered (or named) based on build level, or deployment bindings (or both)

- **Group Rollout or Atomic Rollout**

- **Validation Mode or Concurrent Activation Mode**

  Use Routing Policies & Dynamic Clusters to control traffic to the new editions.

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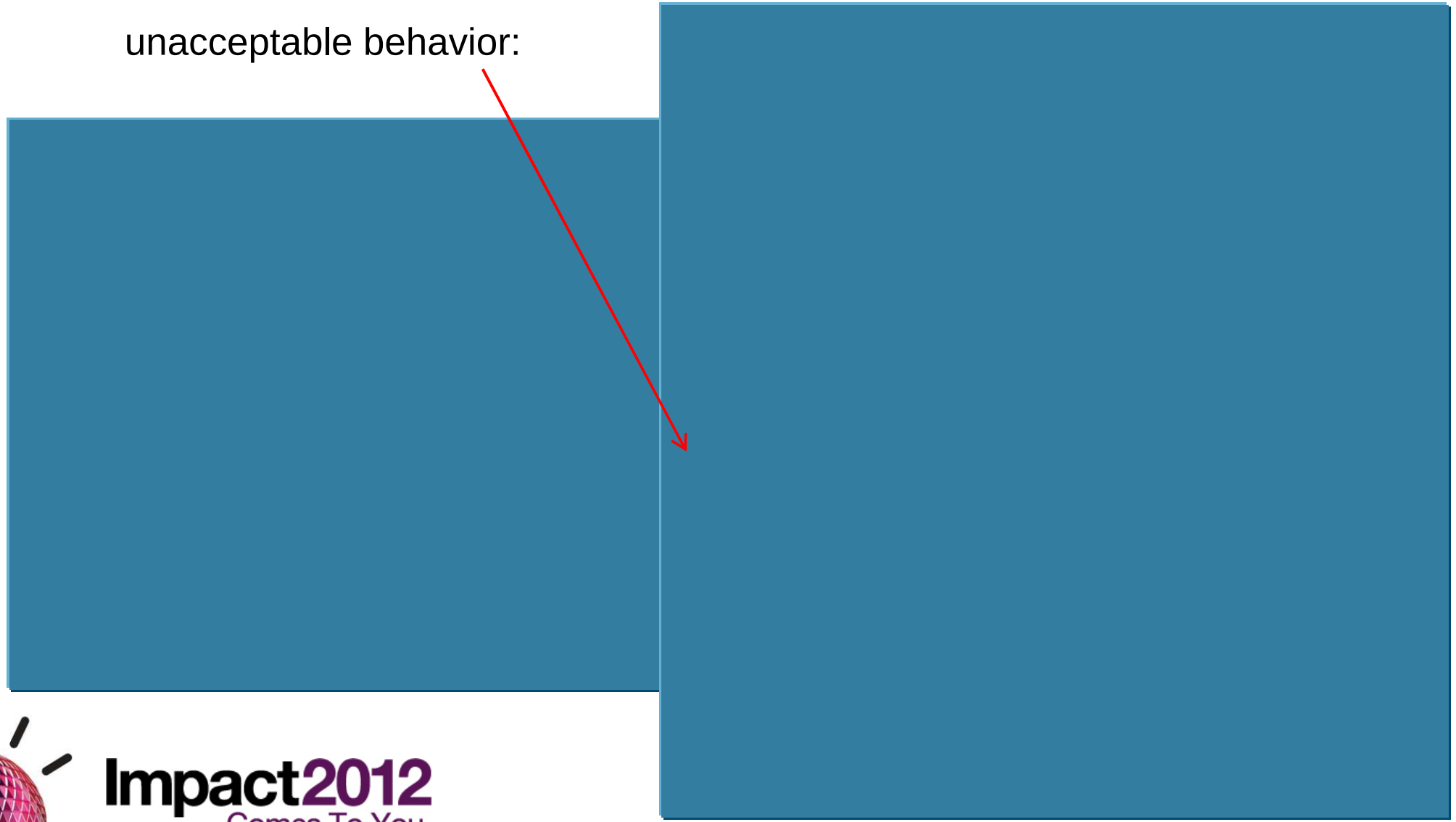
Health Monitoring improvements in WAS 8.5

Can define Health Policies to take corrective action based on unacceptable behavior:



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On Demand Router (ODR) included in WAS 8.5

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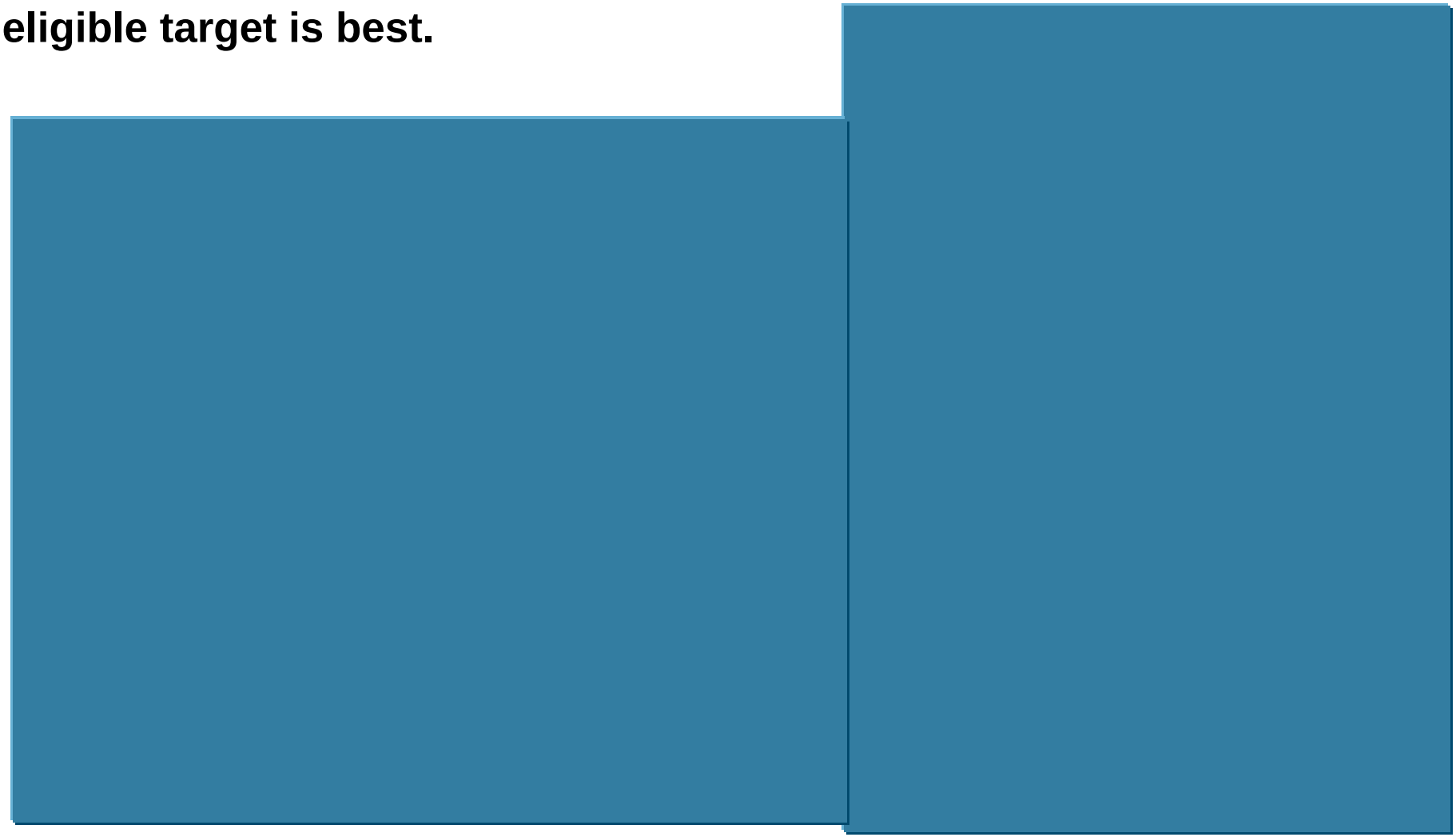
On Demand Router and dynamic operations

- ODRs and Dynamic Clusters are redundant with z/OS WLM and Dynamic Servant address spaces ....
- May Increase Complexity and Overhead....
- Sysplex Distributor with HTTP plugins, or Proxy servers can balance your work across multiple Servers, and WLM-managed Servants for changes in demand....

WebSphere Plug-in Solution

Add Sysplex Distributor which relies on zWLM to understand which eligible target is best.



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XCT Log Viewer
(Cross Component Trace)

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XCT Log Viewer in WAS V8.5

(XCT = Cross Component Trace)

Write your logs using advanced format so that you can see the request ID information in the logs.

For example:

<profile_root>/bin-> ./logViewer.sh

Using <profile_root>/logs/cbsr03a as repository directory.

```
Instance ID                                              Start Date
1337030555018                                            05/14/12 17:22:35.018
1337030555018/0000018400000006-CBSR03AS_STC06101 05/14/12 17:22:48.460
1337789556138                                            05/23/12 12:12:36.138
1337789556138/000001B400000001-CBSR03AS_STC06163 05/23/12 12:12:49.857
```

logViewer.sh ./logViewer.sh -minLevel WARNING -format advanced -instance 1337789556138/000001B400000001-CBSR03AS_STC06163

Using /wasv85config/cbcell/cbnodea/AppServer/profiles/default/logs/cbsr03a as repository directory.

...

[5/23/12 12:12:51:333 EDT] 00000001 W UOW= source=com.ibm.ws.ssl.config.WSKeyStore class= method= org=IBM prod=WebSphere component=Application Server thread=[main]

CWPKI0041W: One or more key stores are using the default password.

Selectable Java SDK in WAS 8.5

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Selectable Java SDK in WAS 8.5 (6 or 7)

The IBM WebSphere SDK Java Technology Edition Version 7.0 offering has its own Package in the WAS V8.5 Repository

Sample IM Install Job:

/Service/InstallationManager/bin/eclipse/tools/imcl

install com.ibm.websphere.IBMJAVA.v70

-installationDirectory /Service/usr/lpp/zWebSphere/V8R5

-sharedResourcesDirectory /Service/InstallationManager/sharedResources

-repositories http://www.ibm.com/software/repositorymanager/com.ibm.websphere.zos.v85..

Sample Java HFS Directory Structures:

```
/wasv85config/xxcell/xxnodey/AppServer/java* → wasInstall/java*
/wasv85config/xxcell/xxdmnode/DeploymentManager/java* → wasInstall/java*
wasInstall -> /Service/usr/lpp/zWebSphere/V8R5
/usr/lpp/zWebSphere/V8R5/java
/usr/lpp/zWebSphere/V8R5/java64
/usr/lpp/zWebSphere/V8R5/java_1.7_31
/usr/lpp/zWebSphere/V8R5/java_1.7_64
```

Java 7 on System z

New I/O

Meets the increasingly I/O intensive demands of data mining and analytics workloads

Significant performance and footprint gains from async I/O

Concurrency Libraries

Exploit larger multi-core systems, such as next generation Power and System z, by providing better scalability, higher throughput and lower total cost of ownership from server consolidations

Dynamic language support

Leverage the advantages of a single runtime for dynamic language applications written in PHP, Groovy, jRuby and jython

Language improvements

Improved efficiency through simplified day-to-day programming tasks

Protect developer commitment to, and customer/ISV investment in, the Java ecosystem.

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IBM Support Assistant Data Collector built-in

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IBM Support Assistant (ISA) Data Collector included

Automatically Collect Data for Problem Analysis and Send to IBM Support.

Very simple to use:

Invoke from **<profile_root>/bin/isadc.sh**

Prompts for Options (if not specified):

Location of zip file to be created

Transfer to IBM (HTTPS, FTP) or to some other host.

PMR Number

License (“I agree”)

Produces a zip file and FTPs to IBM (or specified host):

```
:/u/hutch-> jar -tvf  12345.678.000.cbcell-cbnodea-WAS-ISADC.zip
  24700 Wed May 23 11:10:44 EDT 2012 autopdzip/autopd/log/Trace_Viewer.xml
  39422 Wed May 23 11:10:44 EDT 2012 autopdzip/autopd/log/Viewer_Translations.js
   1515 Wed May 23 11:11:28 EDT 2012 autopdzip/autopd/log/isadc-error0.log
  97158 Wed May 23 11:11:28 EDT 2012 autopdzip/autopd/log/isadc-trace0.xml
   5008 Wed May 23 11:10:44 EDT 2012 autopdzip/autopd/log/isadc-trace1.xml
 210119 Wed May 23 11:12:16 EDT 2012 RAS_Collect_Tool/Debug/config/Output.txt
   2992 Wed May 23 11:11:10 EDT 2012 RAS_Collect_Tool/autopd-collection-environment-v2.xml
```

System z Social Media

System z official Twitter handle:

@ibm_system_z

Top Facebook pages related to System z:

Systemz Mainframe

IBM System z on Campus

IBM Mainframe Professionals

Millennial Mainframer

Top LinkedIn Groups related to System z:

Mainframe Experts Network

Mainframe

IBM Mainframe

System z Advocates

Cloud Mainframe Computing

YouTube

IBM System z

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