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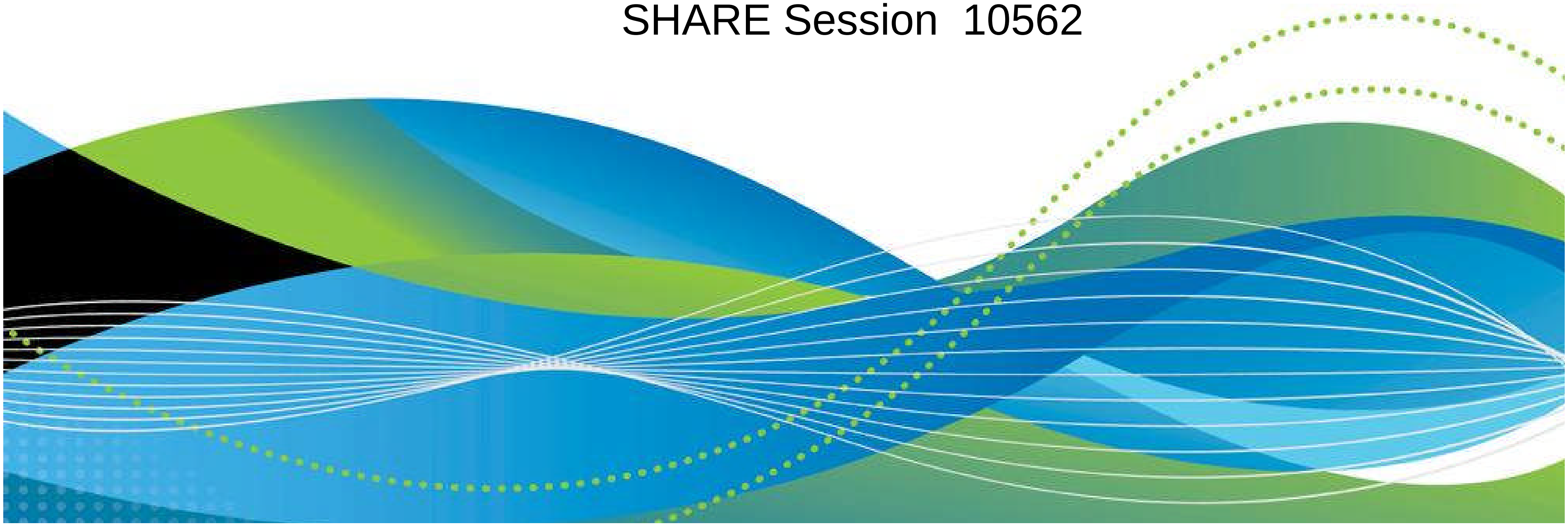
WebSphere Application Server for z/OS - Batch Update -

John Hutchinson
IBM

March, 2012 - Atlanta
SHARE Session 10562



WebSphere Application Server on z/OS

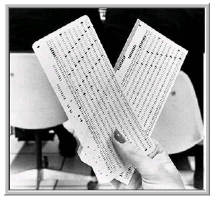
Session	Day	Time	Room	Title	Speaker
10560	Monday	9:30	International Ballroom F	Version 8 – Overview and Update	David Follis
10580	Monday	11:00	Cottonwood A/B	Back to Basics	Mike Loos
10633	Wednesday	1:30	International Ballroom C	Installation Manager – The Cross Platform Installer for WAS	Mike Loos
10561	Wednesday	3:00	Cottonwood A/B	Version 8 – New z/OS Exploitation Features	David Follis
10562	Thursday	11:00	Cottonwood A/B	Batch Update	John Hutchinson
10581	Thursday	1:30	Cottonwood A/B	Getting Started with Version 8 – Part Zero!	Mike Loos
10518	Thursday	6:00	Cottonwood A/B	Potpourri	Anybody
10516	Friday	8:00	Dogwood B	Level 2 Update	Mike Stephen
10563	Friday	9:30	Pine	Hands on Lab	Mike Stephen, David Follis, Ken Irwin

Batch Processing ....

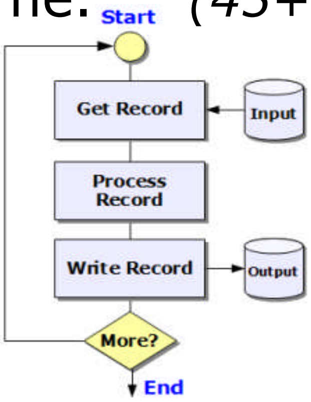
...has been around for a very long time. *(45+ yrs)*

COBOL

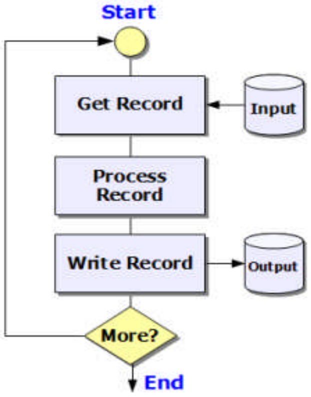
or C/C++, or PL/I, or Assembler



Java



Different programming languages ...



... similar business results.

Several Different Approaches...

- Standalone Java Program
  - JVM Launcher – JZOS
    - z/OS 1.13 Batch Container *(New!)*
      - ***WebSphere Java Batch Container – XD Compute Grid***

Then ... Why *Java* Batch?

Some things that are behind this trend ...

zAAPs

they provide a means of increasing the financial benefit of operations on z/OS

Skills

Java skills are become more prevalent while COBOL less so

Tooling

Desire to coalesce around a common set of tooling and source control mechanisms

Re-Use

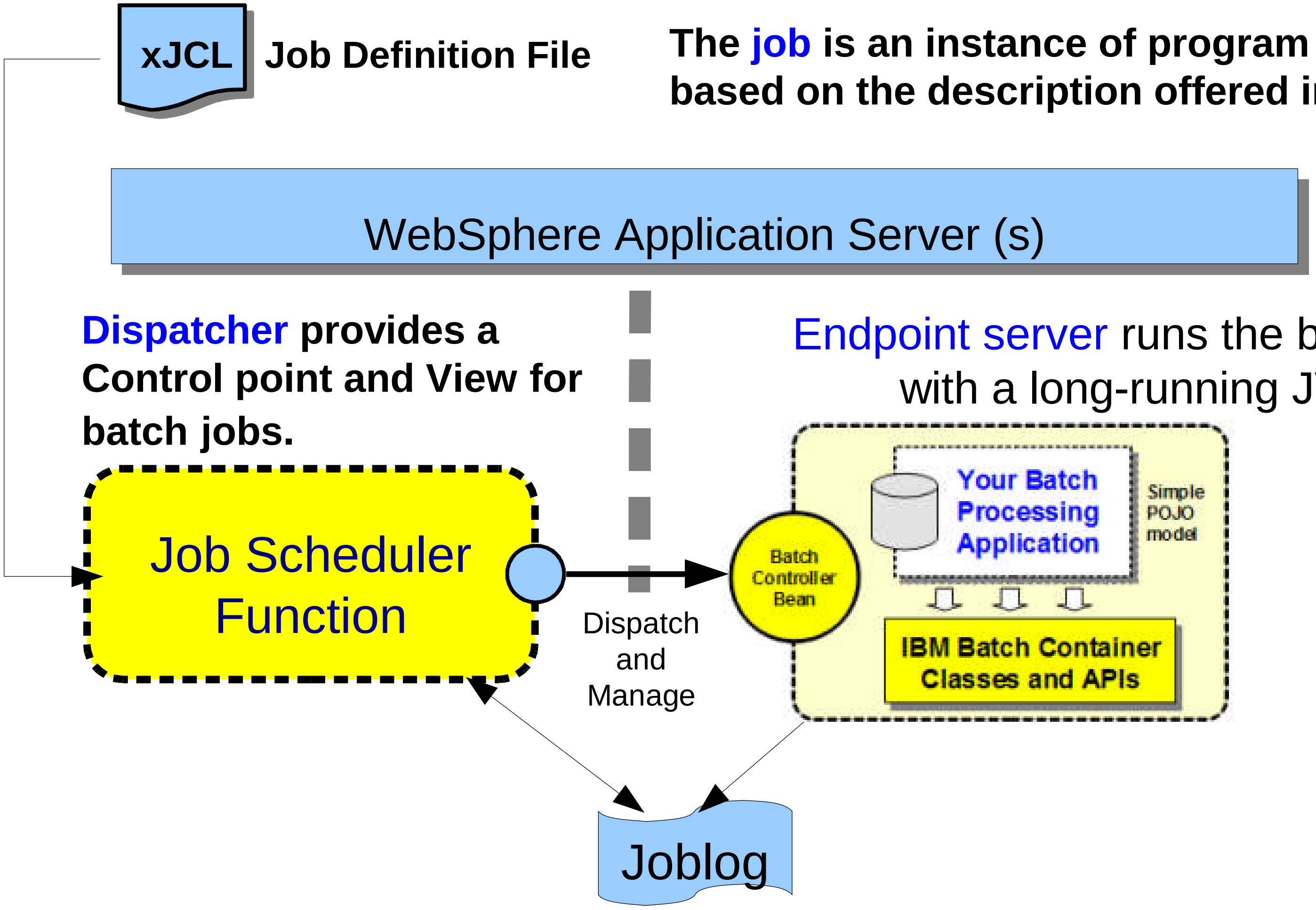
Exposing batch processes as services through WAS interfaces

Efficiency

Using batch to "fill white space" in WAS OLTP processing

Reviewing Compute Grid Servers . .

Consists of a Dispatcher & Endpoint server



The job is an instance of program invocation based on the description offered in the xJCL file.

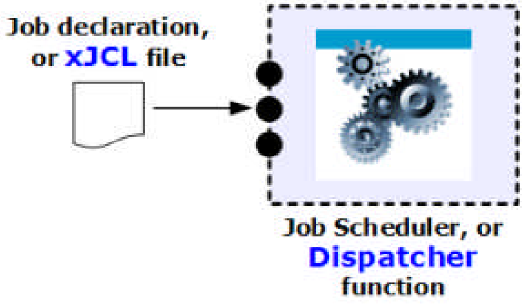
Dispatcher provides a Control point and View for batch jobs.

Endpoint server runs the batch jobs with a long-running JVM.

The Dispatcher & Endpoint may be in the Same server, Separate servers, or Clustered across many LPARs. Your choice. ☺

xJCL: Declaring the Structure of a Job (review)

The concepts are the same as traditional JCL ... syntax different



Roughly analogous to the JOB card

```
<?xml version="1.0" encoding="UTF-8" ?>
<job name="Sample" default-application-name="Sample" ... ">
<jndi-name>ejb/com/ibm/ws/batch/SampleBatchController</jndi-na
     :
     <substitution-props>
        <prop name="ABC" value="1000" />
        <prop name="XYZ" value="/tmp/Sample.txt" />
     </substitution-props>

   <job-step name="SampleStep1">
   <jndi-name>ejb/SampleModule1</jndi-name>
     :
     <props>
        <prop name="number" value="${ABC}"/>
     </props>
   </job-step>

   <job-step name="SampleStep2">
   <jndi-name>ejb/SampleModule2</jndi-name>
     :
     <props>
        <prop name="number" value="${XYZ}"/>
     </props>
   </job-step>

</job>
```

Job STEP ... JNDI name is analagous to the PGM= in traditional JCL

Carry substitution properties down to variable declarations in XML

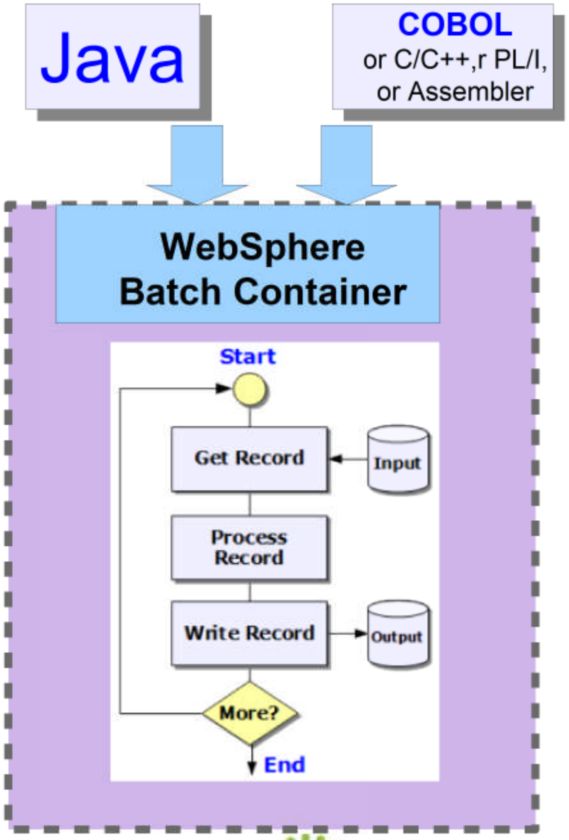
Not shown:

- Checkpoint declaration
- Conditional processing
- Input/Output declarations
- Much more

xJCL provides a way to describe ("declare") what makes up the elements of a "job"

What's New with Batch (Compute Grid) on z/OS?

- *WebSphere Application Server Version 8 includes V7 Batch FeP*
  - Sub-set of function in XD Compute Grid
- *WebSphere XD Compute Grid Version 8 Enhancements:*
  - Configuration & Operational Improvements *
  - Programming Framework *
  - Job Structure Enhancements *
  - Integration with JES Schedulers *
  - Parallel Job Management *
  - Job Classification & Control *
  - Job Usage Reporting *
  - Integration with CICS & COBOL *
- *Migration from Version 6.1.1*
- *Information Center & other Resources*



Java

COBOL
or C/C++,r PL/I,
or Assembler

WebSphere
Batch Container

Batch Feature Pack & XD Compute Grid

Here's a summary of the key features:

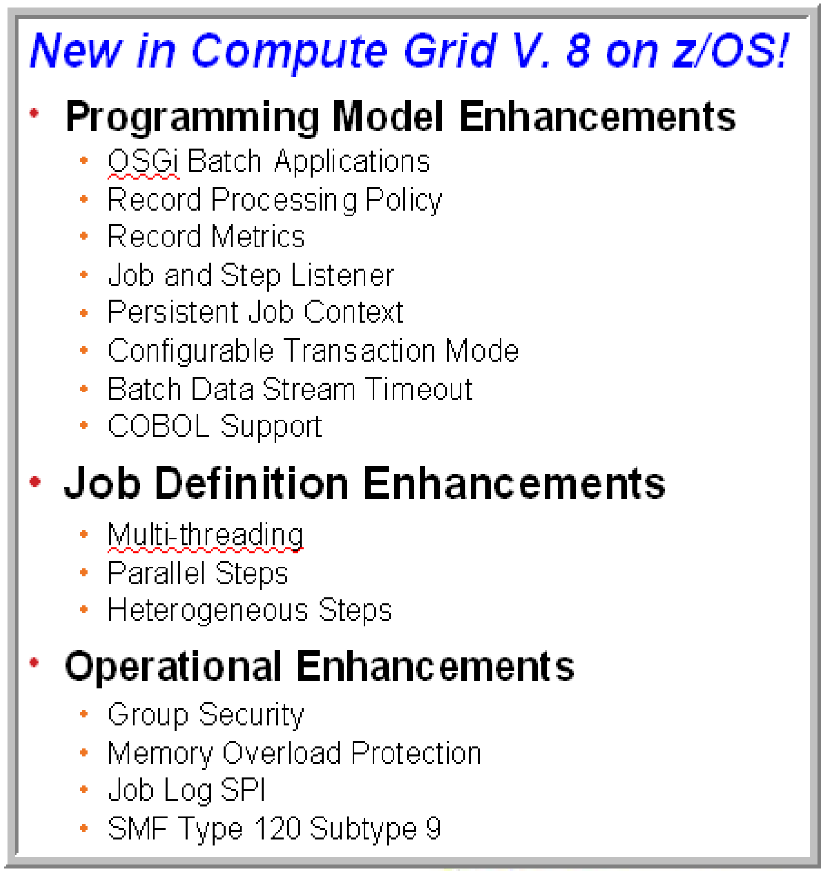
Feature Pack for Modern Batch (now part of WAS V.8)

Batch container environment
Job scheduler and dispatcher function
Declarative job control file (xJCL)
Development class libraries
Batch Data Stream (BDS)
Conditional multi-step job support
Ckpt processing leverages WAS trans. Mgr

WebSphere XD Compute Grid

Everything you see under "FP for Modern Batch" plus ...

Calendar & clock scheduling of jobs
Integration with ext. scheduler products
Usage reporting with SMF 120.20 & .9
WLM transaction classification *by job*
Application quiesce and update
Job submission pacing and throttling
Parallel job management & dispatching
Integration with COBOL and CICS

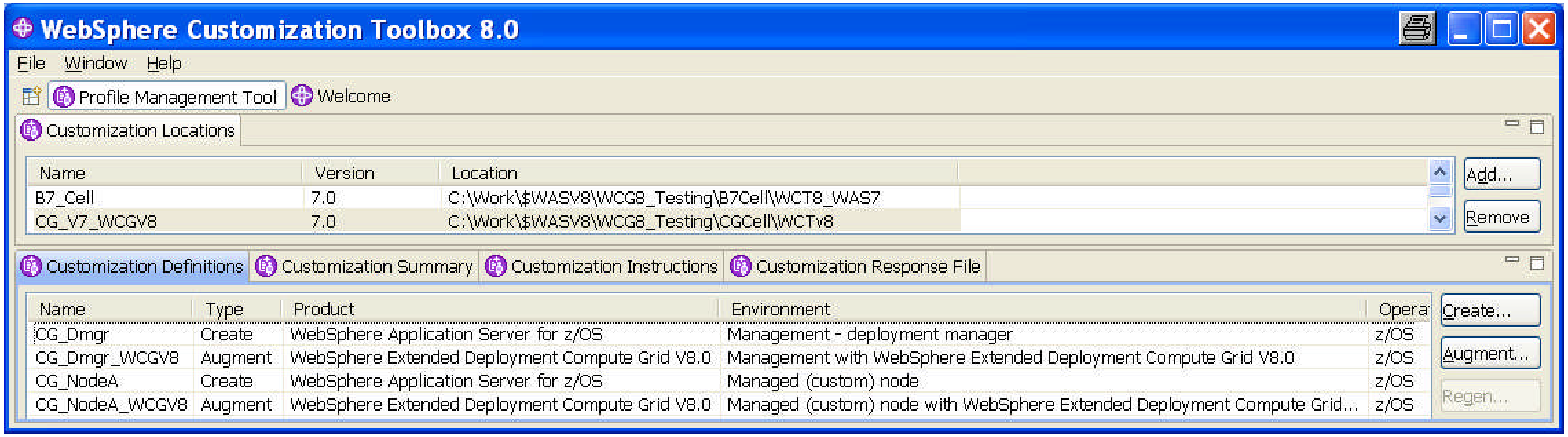


New in Compute Grid V. 8 on z/OS!

- **Programming Model Enhancements**
  - OSGi Batch Applications
  - Record Processing Policy
  - Record Metrics
  - Job and Step Listener
  - Persistent Job Context
  - Configurable Transaction Mode
  - Batch Data Stream Timeout
  - COBOL Support
- **Job Definition Enhancements**
  - Multi-threading
  - Parallel Steps
  - Heterogeneous Steps
- **Operational Enhancements**
  - Group Security
  - Memory Overload Protection
  - Job Log SPI
  - SMF Type 120 Subtype 9

Configuration Improvements

- ***WAS Version 8***
  - Includes Modern Batch Feature Pack
  - Installation Manager support (Required)
  - WebSphere Customization Toolbox (WCT) V8 supports WCG Augmentation
- ***Use WCT V8 to create and augment a WAS V7 or V8 Cell with WCG V8***
  - *Deployment Manager & Empty Node Augmented with Compute Grid*



Name	Version	Location
B7_Cell	7.0	C:\Work\$WASV8\WCG8_Testing\B7Cell\WCT8_WAS7
CG_V7_WCGV8	7.0	C:\Work\$WASV8\WCG8_Testing\CGCell\WCTv8

Name	Type	Product	Environment	Opera
CG_Dmgr	Create	WebSphere Application Server for z/OS	Management - deployment manager	z/OS
CG_Dmgr_WCGV8	Augment	WebSphere Extended Deployment Compute Grid V8.0	Management with WebSphere Extended Deployment Compute Grid V8.0	z/OS
CG_NodeA	Create	WebSphere Application Server for z/OS	Managed (custom) node	z/OS
CG_NodeA_WCGV8	Augment	WebSphere Extended Deployment Compute Grid V8.0	Managed (custom) node with WebSphere Extended Deployment Compute Grid...	z/OS

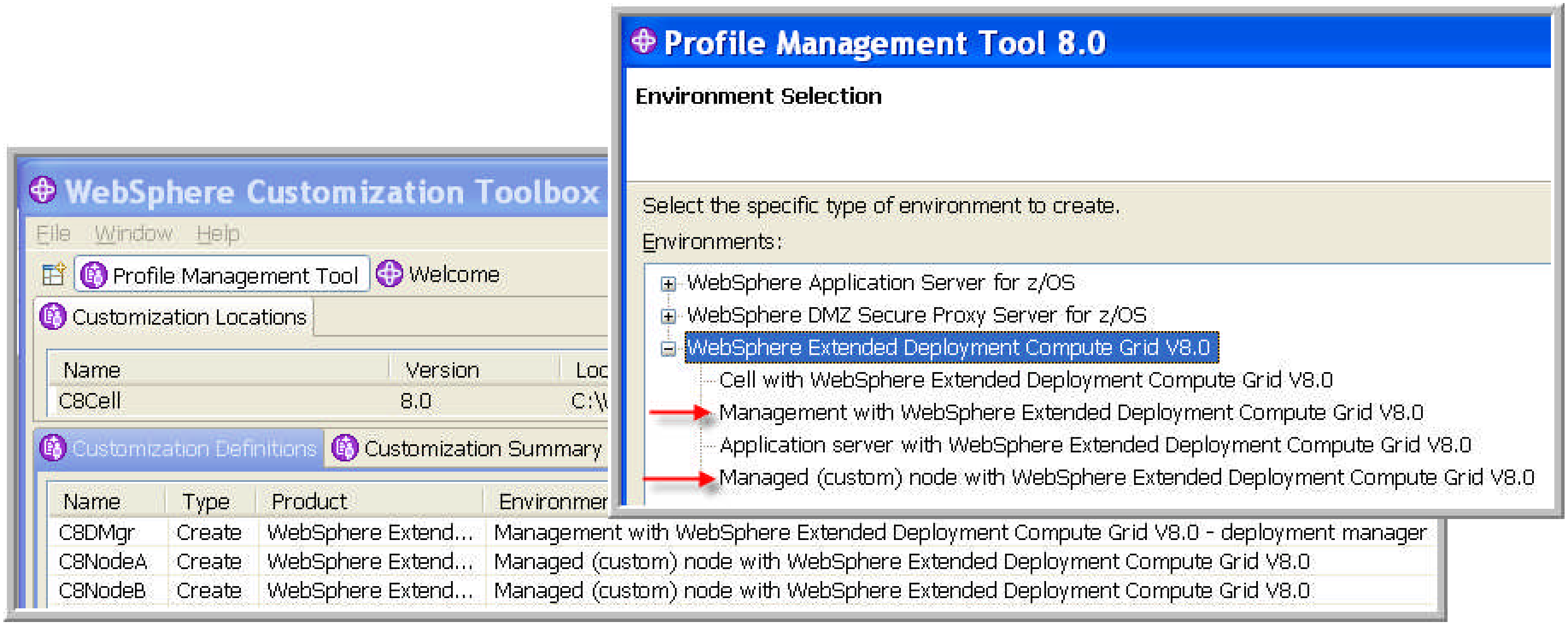
- ***Also pre-configured in Compute Grid Version 8***
  - **Parallel Job Manager**
  - **PGCProxy** (used by **CICS CN11 SupportPac**)
  - **COBOL Container** and JAR files

Configuring 'WCG' V8 on z/OS – a closer look...

Simplified with WCT Version 8:

1) Create Deployment Manager Augmented with Compute Grid

2) Create Empty Nodes Augmented with Compute Grid



Profile Management Tool 8.0

Environment Selection

Select the specific type of environment to create.

Environments:

- WebSphere Application Server for z/OS
- WebSphere DMZ Secure Proxy Server for z/OS
- WebSphere Extended Deployment Compute Grid V8.0
  - Cell with WebSphere Extended Deployment Compute Grid V8.0
  - Management with WebSphere Extended Deployment Compute Grid V8.0
  - Application server with WebSphere Extended Deployment Compute Grid V8.0
  - Managed (custom) node with WebSphere Extended Deployment Compute Grid V8.0

WebSphere Customization Toolbox

Name	Version	Loc
C8Cell	8.0	C:\

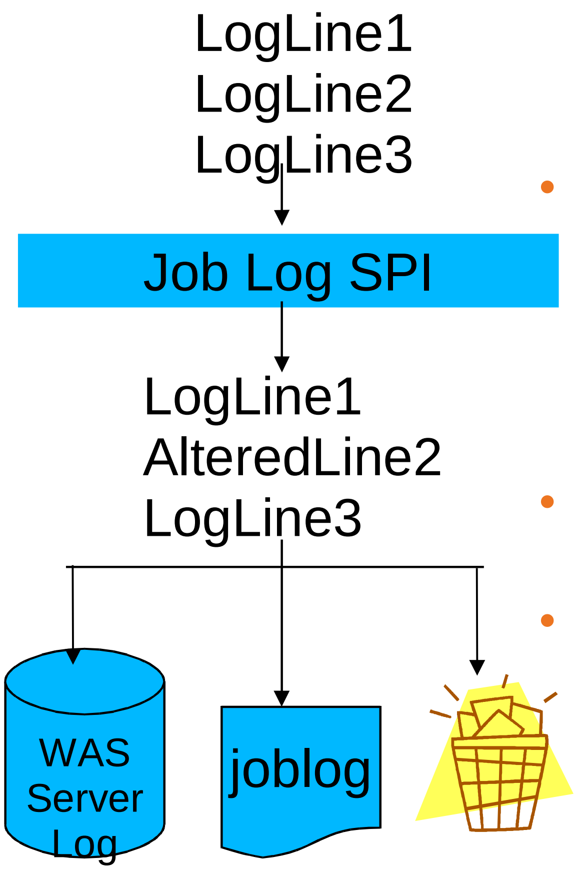
Name	Type	Product	Environmer
C8DMgr	Create	WebSphere Extend...	Management with WebSphere Extended Deployment Compute Grid V8.0 - deployment manager
C8NodeA	Create	WebSphere Extend...	Managed (custom) node with WebSphere Extended Deployment Compute Grid V8.0
C8NodeB	Create	WebSphere Extend...	Managed (custom) node with WebSphere Extended Deployment Compute Grid V8.0

Configure the Compute grid Dispatcher & Endpoint Servers:

3) Create Database & Data sources (DBA & ISC)

4) Configure Job Scheduler & Endpoint Server (ISC)

Operational Improvements



LogLine1
LogLine2
LogLine3

Job Log SPI

LogLine1
AlteredLine2
LogLine3

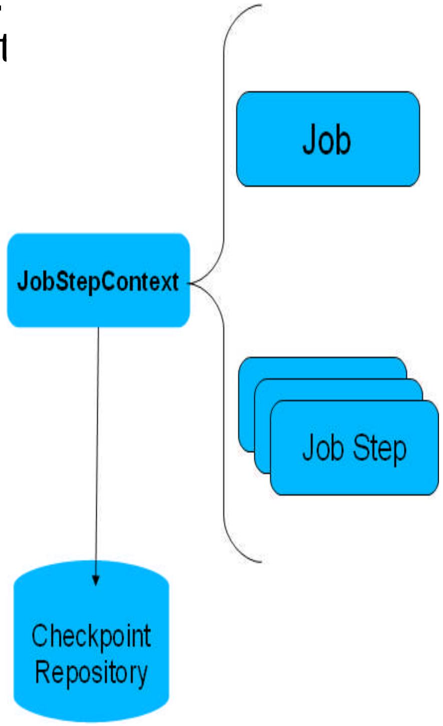
WAS Server Log

joblog

- **Group Level Security**
  - Control access to Jobs based on Group Membership (including the JMC)
- **JobLog SPI** (System Programing Interface) **Controls**
  - Destination: Joblog or WAS Server log, or Both, or Neither (suppress)
  - Alter Content: SPI can modify any job log line.
- **SMF Type 120 Subtype 9 records**
- **Memory Overload Protection**
  - Protects against over-scheduling jobs to an Endpoint, & Java OutOfMemory
  - Batch Container monitors job memory demand against available JVM heap
  - Automatic real time job memory estimation with declarative xJCL override

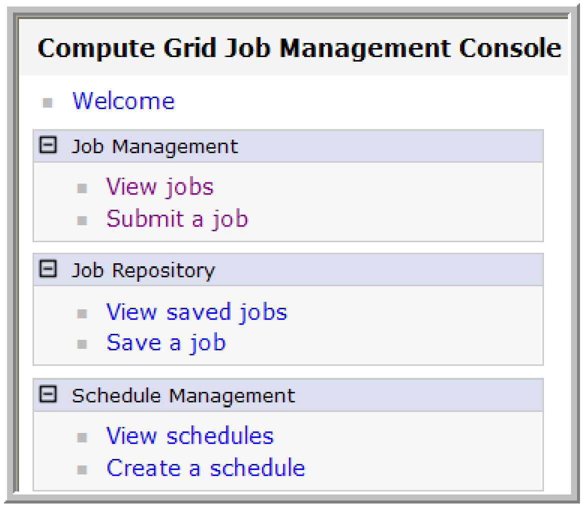
Programming Model Enhancements in WCG V8

- **Persistent JobStepContext object**
  - Exists for life of job; Step-specific context reset at each job step.
  - New persistent user data object stored across checkpoint/restart
- **Job and Step Listener**
  - Notification of Job/Step Start/End thru JobStepContext object.
- **Configurable Transaction Mode**
  - Select job step transaction mode: Local or Global
- **Record Processing Policy**
  - Skip bad records, Retry, or Stop Job Processing controls
- **Batch Data Stream Timeout** – Configurable by Job Step
  - Some BatchDataStreams need Short timeouts, others Long.
- **Record Metrics**
  - Skipped record count, Retry count,
  - Records/Second, Processing time
  - Written to Joblog
  - Available to batch application thru JobStepContext object.
- **OSGi Batch Applications**
  - Deploy batch applications as OSGi bundles
- **COBOL Container Support**



Job Management Console

Browser-based view into the batch environment for Monitoring & Control:

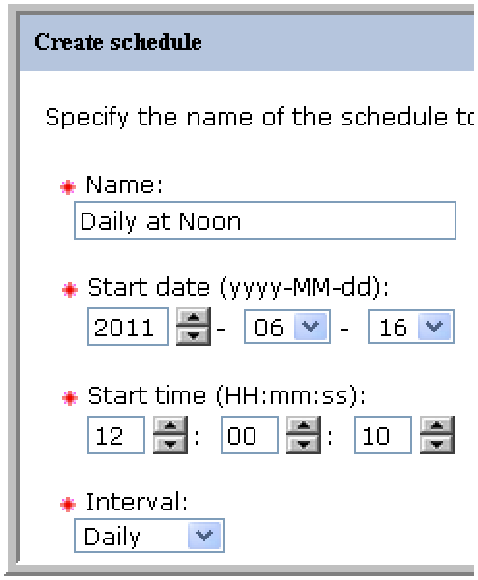


Compute Grid Job Management Console

- Welcome
- ⊟ Job Management
  - View jobs
  - Submit a job
- ⊟ Job Repository
  - View saved jobs
  - Save a job
- ⊟ Schedule Management
  - View schedules
  - Create a schedule

Browser

A web interface allows very simple access with powerful **Filtering** and **Sorting** controls.



Create schedule

Specify the name of the schedule tc

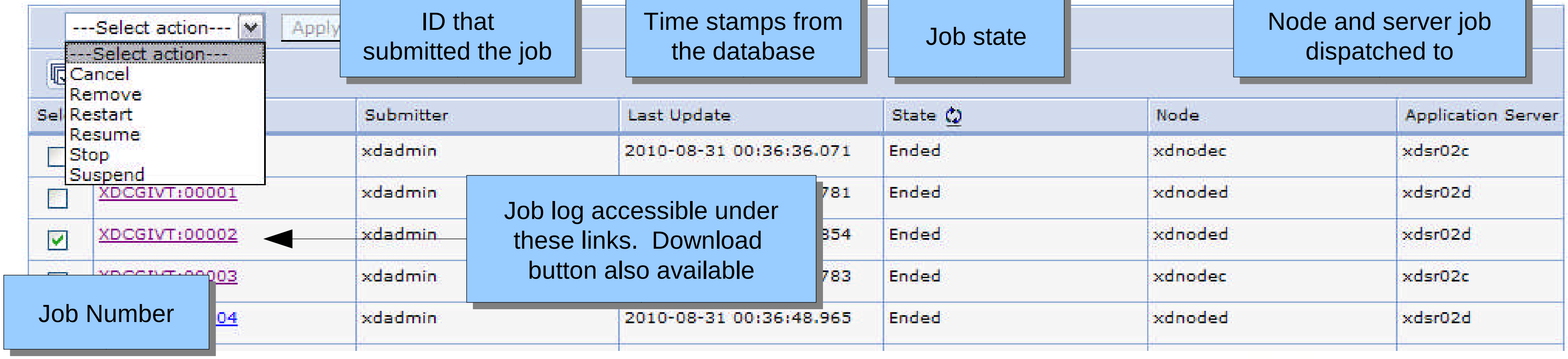
* Name: Daily at Noon

* Start date (yyyy-MM-dd): 2011 - 06 - 16

* Start time (HH:mm:ss): 12 : 00 : 10

* Interval: Daily

Actions against select jobs



---Select action--- Apply

---Select action---
Cancel
Remove
Restart
Resume
Stop
Suspend

ID that submitted the job

Time stamps from the database

Job state

Node and server job dispatched to

Sel		Submitter	Last Update	State	Node	Application Server
□		xdadmin	2010-08-31 00:36:36.071	Ended	xdnodec	xdsr02c
□	XDCGIVT:00001	xdadmin	781	Ended	xdnoded	xdsr02d
☑	XDCGIVT:00002	xdadmin	354	Ended	xdnoded	xdsr02d
□	XDCGIVT:00003	xdadmin	783	Ended	xdnodec	xdsr02c
	04	xdadmin	2010-08-31 00:36:48.965	Ended	xdnoded	xdsr02d

Job log accessible under these links. Download button also available

Job Number

Command Line, Web Services, IIOP and JMX interfaces as well

Job Scheduler Interfaces

The previous chart tended to focus on the web interface, which is certainly the easiest to use. But others are present and offer great value:

Browser

A web interface allows very simple access.

Command Line

Automation through shell script programming.

Web Service

Expose without requiring access to the JMC

RMI

Expose to EJB clients

JMX

Expose to Java JMX client

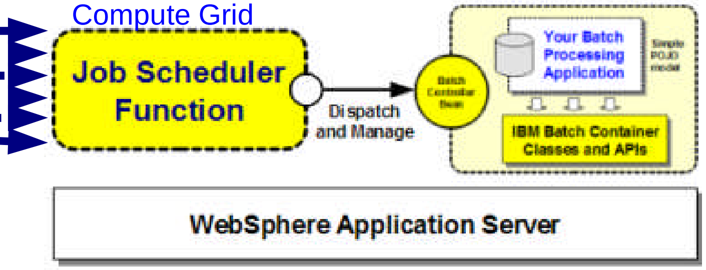
Tivoli. software

Or others

MDB (Compute Grid only)

Used to integrate with enterprise schedulers

Feature Pack
Compute Grid


Job Scheduler Function
Dispatch and Manage
Batch Controller Bean
Your Batch Processing Application
Simple POJO model
IBM Batch Container Classes and APIs
WebSphere Application Server

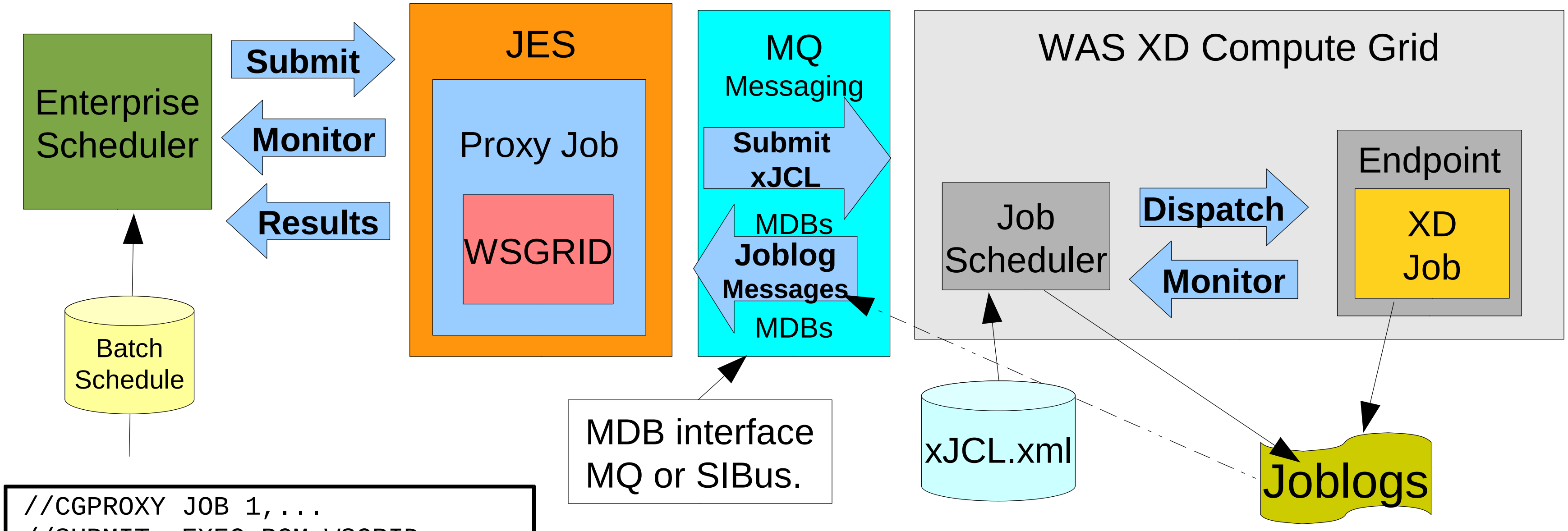
A wide variety of access methods

Blend to meet your business needs

Integrate with JES Schedulers

Traditional batch jobs or Schedulers can extend their reach to Compute Grid with the “WSGRID” utility running as a “Proxy” for an XD batch job:

- Proxy submits job & receives joblog messages in SYSOUT file until XD job ends.
- WSGRID utility notifies the Scheduler of XD job Return Code.

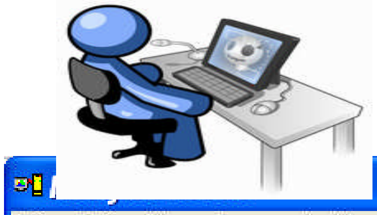


```
//CGPROXY JOB 1,...
//SUBMIT  EXEC PGM=WSGRID
//SYSPRINT DD  SYSOUT=*
//WGCNTL: DD *
queue-manager-name=MQW1
scheduler-input-queue=WASIQ
scheduler-output-queue=WASOQ
//WGJOB DD PATH='/jcl/xJCL.xml'
//WGSUBS DD  *
```

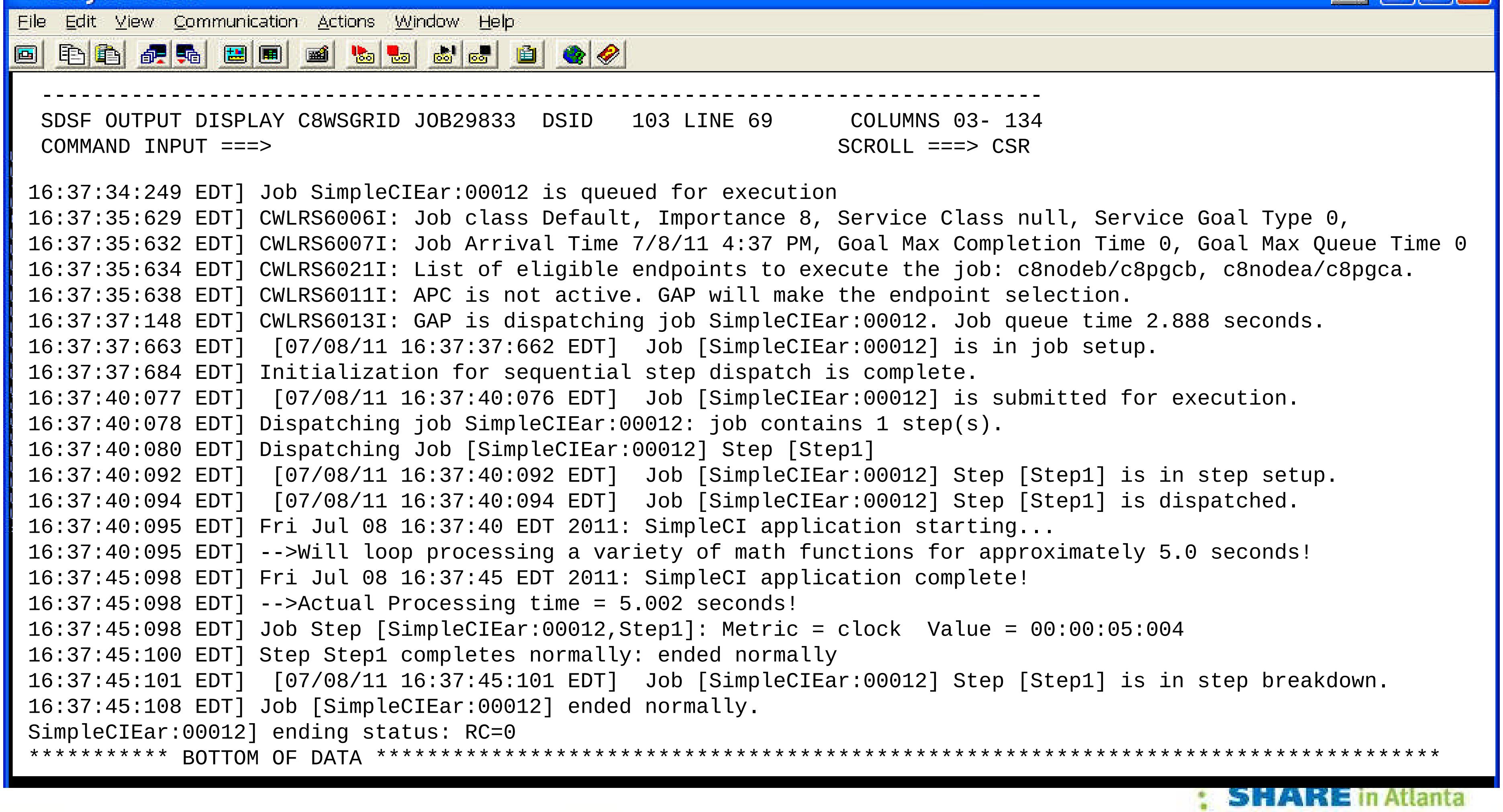
Configuration simplified with Compute Grid V.8 ....

1. Define MQ input & output queues.
2. Configure WAS runtime variables to access MQ libraries.
3. **`installWSGridMQ.py`** script
   - Sets up JMS Connection Factories, Queues & ListenerPort
   - Installs WSGRID system application.

Joblog & Return Code returned to JES Poxy job



Use SDSF or other products
to view results in real time:



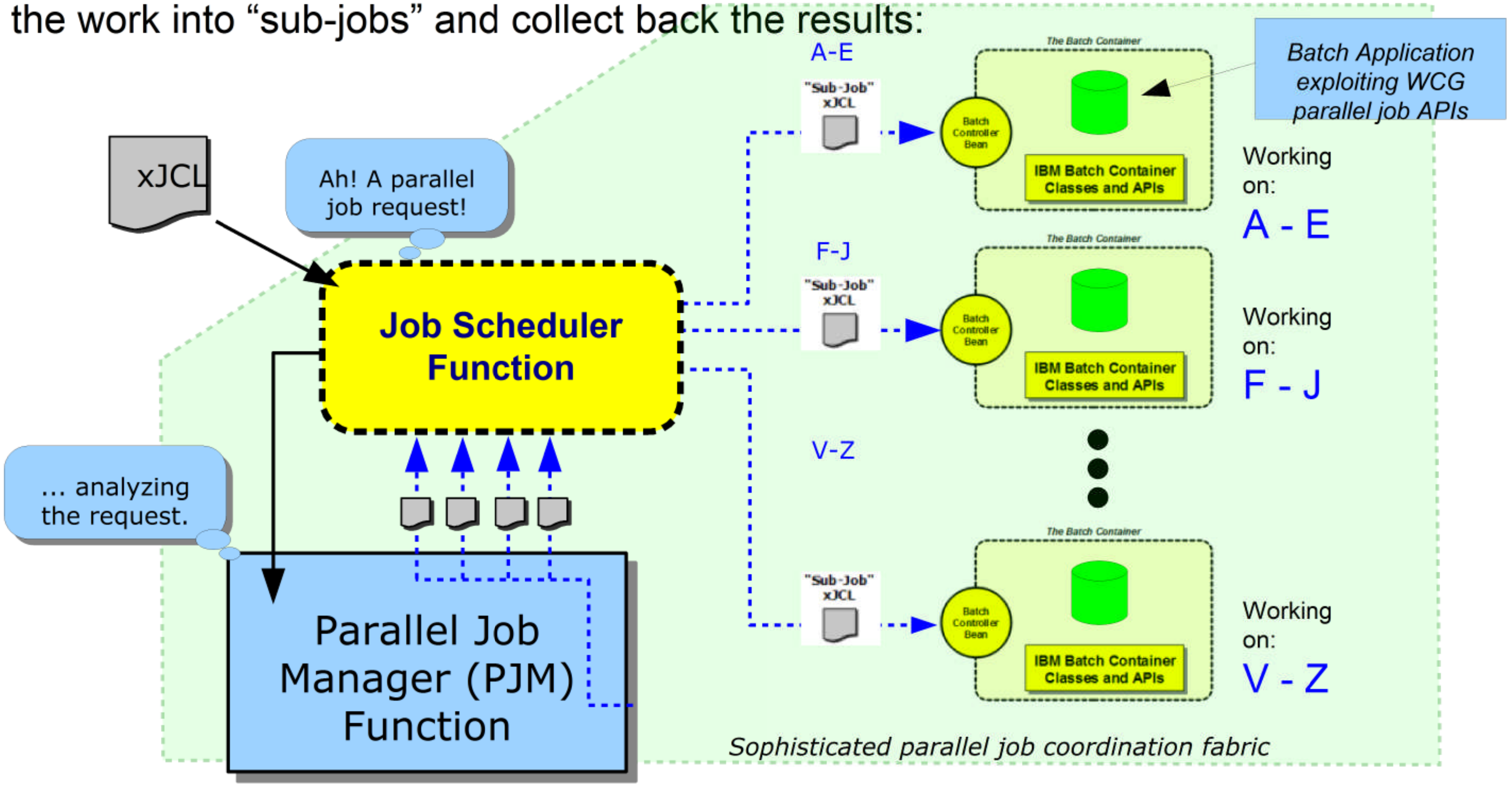
```
 -----------------------------------------------------------------------------
 SDSF OUTPUT DISPLAY C8WSGRID JOB29833  DSID   103 LINE 69      COLUMNS 03- 134
 COMMAND INPUT ===>                                            SCROLL ===> CSR

16:37:34:249 EDT] Job SimpleCIEar:00012 is queued for execution
16:37:35:629 EDT] CWLRS6006I: Job class Default, Importance 8, Service Class null, Service Goal Type 0,
16:37:35:632 EDT] CWLRS6007I: Job Arrival Time 7/8/11 4:37 PM, Goal Max Completion Time 0, Goal Max Queue Time 0
16:37:35:634 EDT] CWLRS6021I: List of eligible endpoints to execute the job: c8nodeb/c8pgcb, c8nodea/c8pgca.
16:37:35:638 EDT] CWLRS6011I: APC is not active. GAP will make the endpoint selection.
16:37:37:148 EDT] CWLRS6013I: GAP is dispatching job SimpleCIEar:00012. Job queue time 2.888 seconds.
16:37:37:663 EDT]  [07/08/11 16:37:37:662 EDT]  Job [SimpleCIEar:00012] is in job setup.
16:37:37:684 EDT] Initialization for sequential step dispatch is complete.
16:37:40:077 EDT]  [07/08/11 16:37:40:076 EDT]  Job [SimpleCIEar:00012] is submitted for execution.
16:37:40:078 EDT] Dispatching job SimpleCIEar:00012: job contains 1 step(s).
16:37:40:080 EDT] Dispatching Job [SimpleCIEar:00012] Step [Step1]
16:37:40:092 EDT]  [07/08/11 16:37:40:092 EDT]  Job [SimpleCIEar:00012] Step [Step1] is in step setup.
16:37:40:094 EDT]  [07/08/11 16:37:40:094 EDT]  Job [SimpleCIEar:00012] Step [Step1] is dispatched.
16:37:40:095 EDT] Fri Jul 08 16:37:40 EDT 2011: SimpleCI application starting...
16:37:40:095 EDT] -->Will loop processing a variety of math functions for approximately 5.0 seconds!
16:37:45:098 EDT] Fri Jul 08 16:37:45 EDT 2011: SimpleCI application complete!
16:37:45:098 EDT] -->Actual Processing time = 5.002 seconds!
16:37:45:098 EDT] Job Step [SimpleCIEar:00012,Step1]: Metric = clock  Value = 00:00:05:004
16:37:45:100 EDT] Step Step1 completes normally: ended normally
16:37:45:101 EDT]  [07/08/11 16:37:45:101 EDT]  Job [SimpleCIEar:00012] Step [Step1] is in step breakdown.
16:37:45:108 EDT] Job [SimpleCIEar:00012] ended normally.
SimpleCIEar:00012] ending status: RC=0
*********** BOTTOM OF DATA ***************************************************************************
```

Parallel Job Manager (PJM)

Batch processing often lends itself to running the work in parallel.

- WebSphere Compute Grid facilitates this with function to cut up the work into “sub-jobs” and collect back the results:



xJCL
Ah! A parallel job request!
Job Scheduler Function
... analyzing the request.
Parallel Job Manager (PJM) Function
A-E
F-J
V-Z
"Sub-Job" xJCL
"Sub-Job" xJCL
"Sub-Job" xJCL
The Batch Container
Batch Controller Bean
IBM Batch Container Classes and APIs
The Batch Container
Batch Controller Bean
IBM Batch Container Classes and APIs
The Batch Container
Batch Controller Bean
IBM Batch Container Classes and APIs
Batch Application exploiting WCG parallel job APIs
Working on: A - E
Working on: F - J
Working on: V - Z
Sophisticated parallel job coordination fabric

Configuring the Parallel Job Manager

How the PJM in V8 differs from previous versions

1. **Parallel job manager integrated into the batch container.**
   - Not a separate system application as before.
   - No need to install and configure the PJM, or separate DB2 tables.
   - No shared library required - PJM APIs in batch utility JAR.
2. **The Systems Programming I'face properties are part of the xJCL.**
   - No `xd.spi.properties` file required.
3. **Only a single xJCL file is required.**
   - Combines the top-level job xJCL with subordinate jobs.
4. **PJM applications built for CG V6 can run as is on WCGv8.**
   - Migrate a WCGv6 PJM application to WCGv8:
   - Add the API implementation classes to the application EAR.
   - Reauthor xJCL as described in V8 InfoCenter.

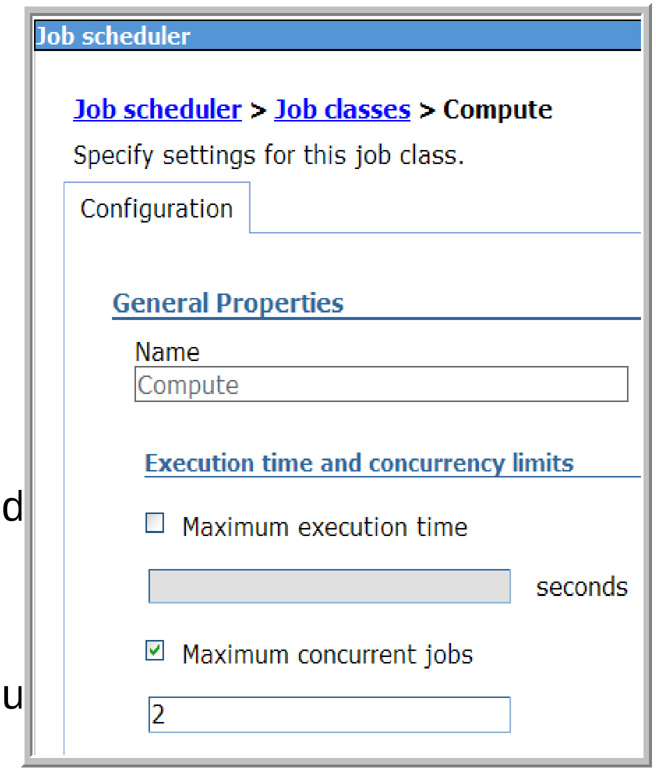
“Job Class” Controls for Batch Jobs

- **Job Class** specified in xJCL:

```
<?xml version="1.0"
<job name="SimpleCI" class="Compute"
```

Job Class can be used to limit:

- **MaxExecutionTime** – Before Jobs are canceled
- **MaxConcurrentJob** – # Allowed to run concurrently
- **MaxClassSpace** – Joblogs exceeding this size are Purged
- **MaxFileAge** – Joblogs older than this are Purged
- **MaxJob** – Max. # of Jobs (Oldest are Purged)
- **MaxJobAge** – Jobs older than this are Purged from Outpu



Job scheduler

Job scheduler > Job classes > **Compute**

Specify settings for this job class.

Configuration

General Properties

Name
Compute

Execution time and concurrency limits

☐ Maximum execution time
seconds

☑ Maximum concurrent jobs
2

- **Job Class** can also be used to assign a Transaction Class.
  - Which WLM can use to classify the job

2 Classification Mechanisms for Batch Jobs:

(1) “Job Class” can be specified on a job.

Job Scheduler dispatches jobs based on:

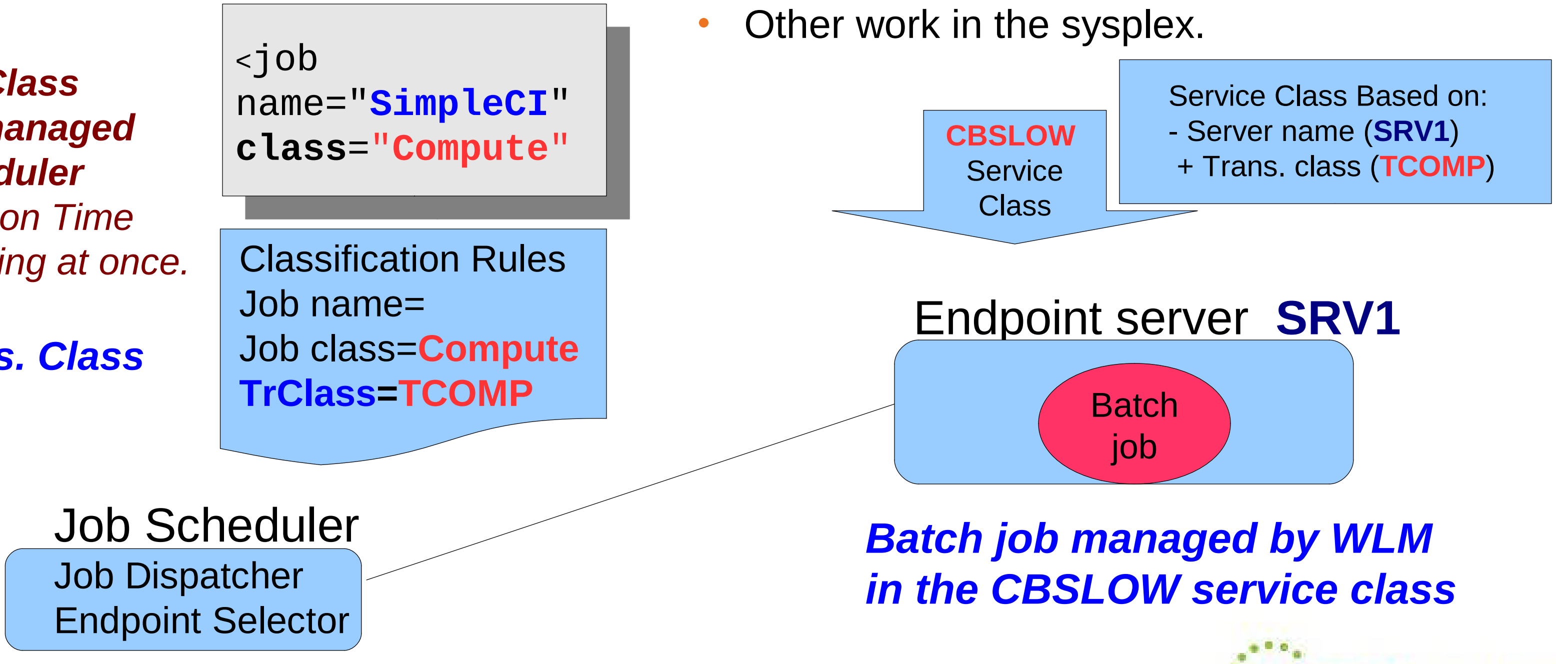
- Availability of Servers to accept new work.
- Number of jobs running within the maximum threshold for the “**Job Class**”
- “Maximum Execution Time” can also be assigned based on the **Job Class**.

(2) z/OS Workload Manager (WLM) manages CPU cycles & I/O to jobs according to:

- **Service Class** assigned based on Cluster Name & **Transaction Class** assigned by the Scheduler.
- **Service class goals** used to specify:
  - “Importance” & Response Time or “Velocity” Objectives.
- Dynamically adjusted based on:
  - Availability of CPU (& other) resources
  - Other work in the sysplex.

Example:
Jobs in Job Class “Compute” managed by Job Scheduler
- Max. Execution Time
- Max. # Running at once.

Assign Trans. Class



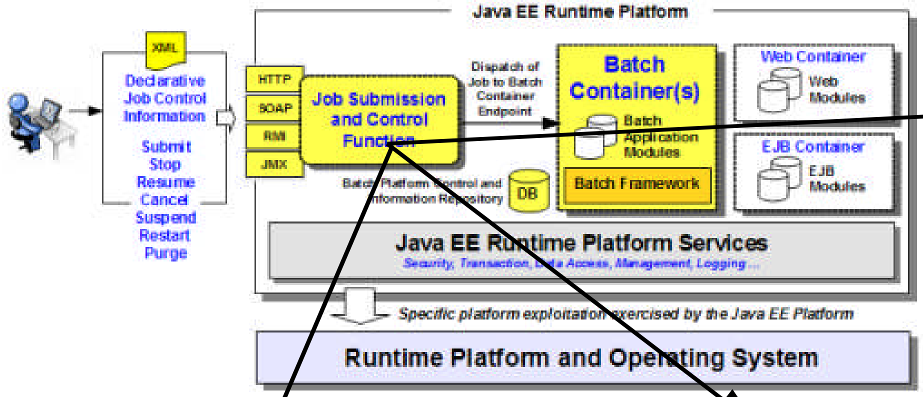
```
<job
name="SimpleCI"
class="Compute"
```

Classification Rules
Job name=
Job class=Compute
TrClass=TCOMP

Batch job managed by WLM in the CBSLOW service class

Compute Grid Job Usage Recording

Job Usage Accounting with SMF records and DB2 JOBUSAGE tables:


Java EE Runtime Platform
XML
Declarative Job Control Information
Submit
Stop
Resume
Cancel
Suspend
Restart
Purge
HTTP
SOAP
RMI
JMX
Job Submission and Control Function
Dispatch of Job to Batch Container Endpoint
Batch Container(s)
Batch Application Modules
Batch Framework
Batch Platform Control and Information Repository
DB
Web Container
Web Modules
EJB Container
EJB Modules
Java EE Runtime Platform Services
Security, Transaction, Data Access, Management, Logging ...
Specific platform exploitation exercised by the Java EE Platform
Runtime Platform and Operating System

DB2 JOBUSAGE records:

- **Job identifier**
- **Job submitter**
- **Final Job state**
- **Server, Node**
- **Accounting info**
- **Job Start time**
- **Last Update time**
- **Total CPU Used**

SMF 120.20 record contents:

- **Job identifier**
- **Job submitter**
- **Final Job state**
- **Server**
- **Node**
- **Accounting information**
- **Job start time**
- **Last update time**
- **General CPU usage**
- **zAAP or zIIP CPU use**

SMF 120.9 (WAS V.8 only)
- UserData Section

- **Job identifier**
- **Job submitter**
- **Accounting info**

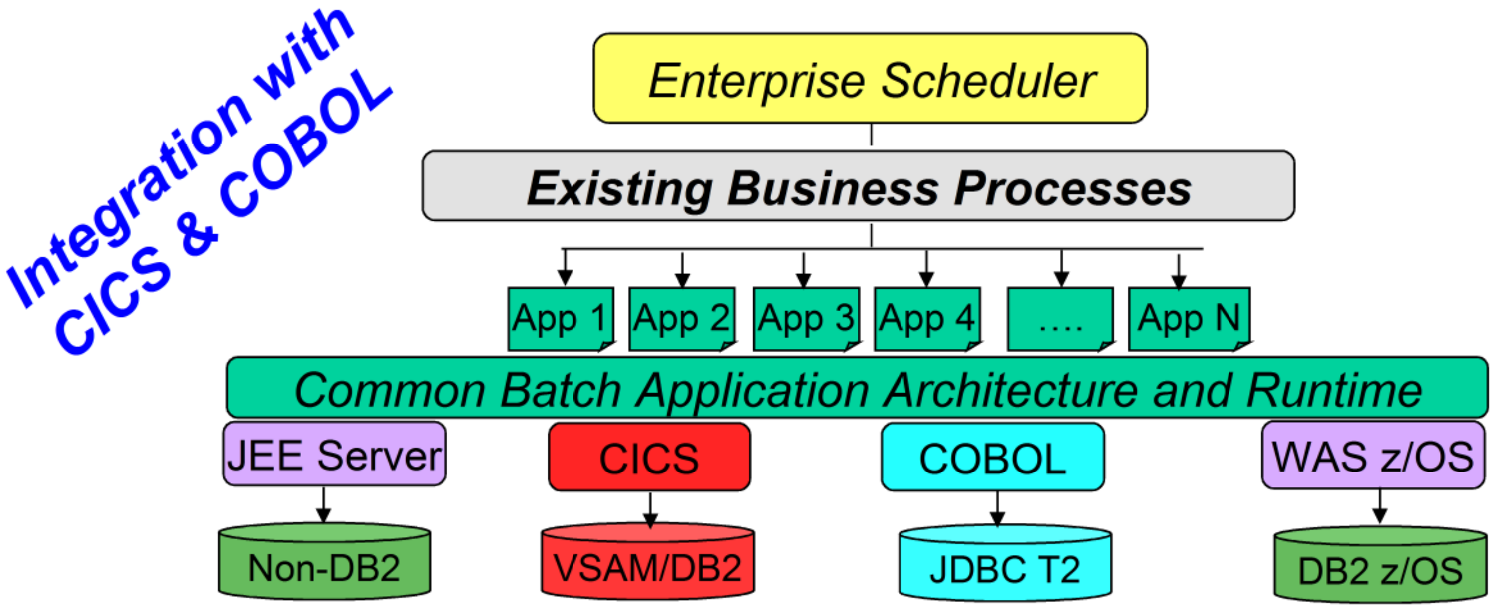
(other stats in other sections)

Record Metrics also added to Joblogs....

- Records/Second, Processing time
- Skipped record count, Retry count
- Also Available in JobStepContext object.

Generate reports & determine usage for Charge-back & Capacity Planning.

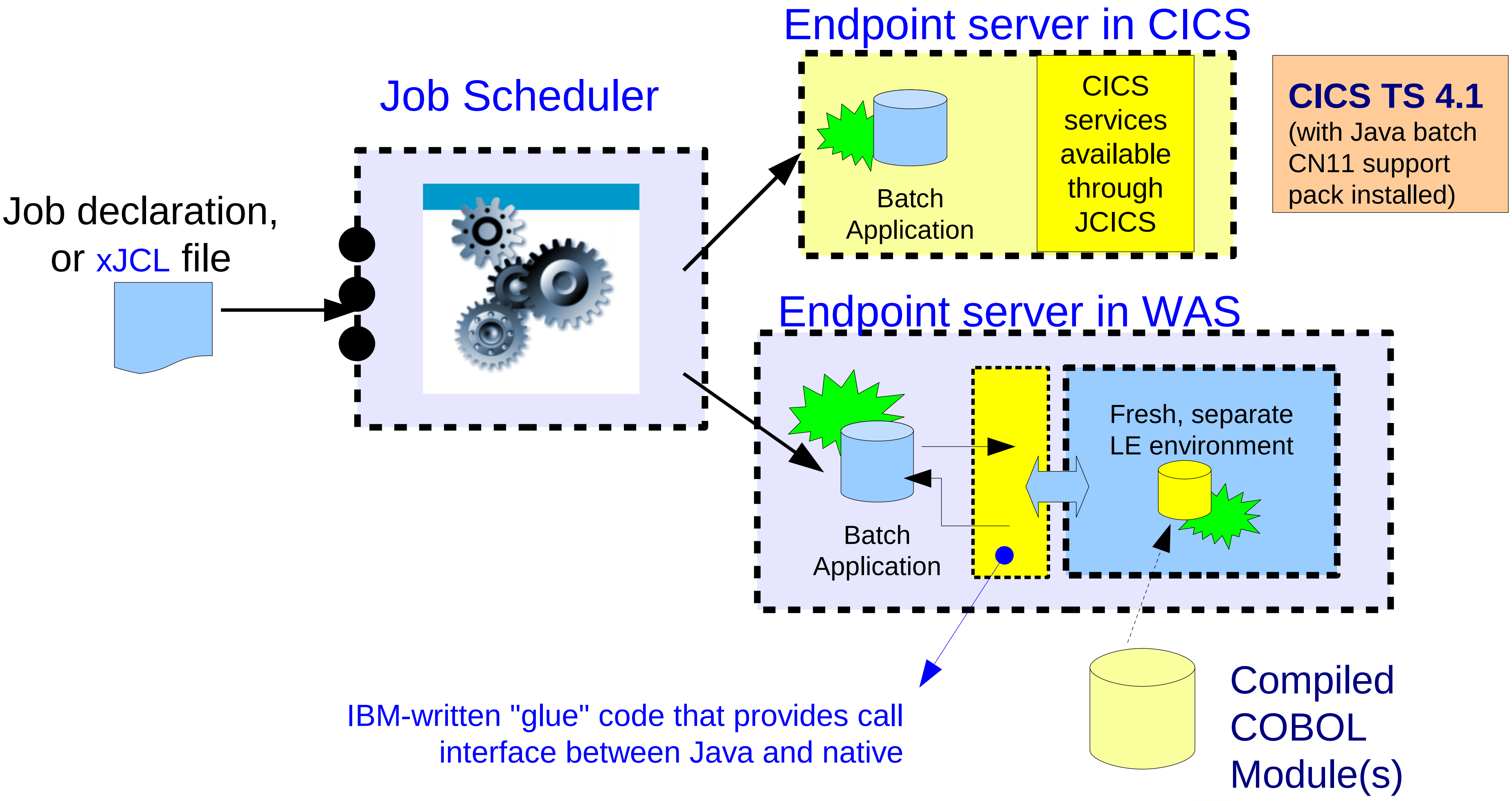
The Batch Vision



1. Batch Containers should run ***everywhere***
2. ***Portable Batch applications*** across platforms and J2EE vendors
3. Location of the data dictates the placement of the batch application
4. Centrally managed by your enterprise scheduler
5. Integrating with existing: Disaster Recovery, Auditing, Logging, Archiving

Java Batch + CICS? or COBOL? Yes ...

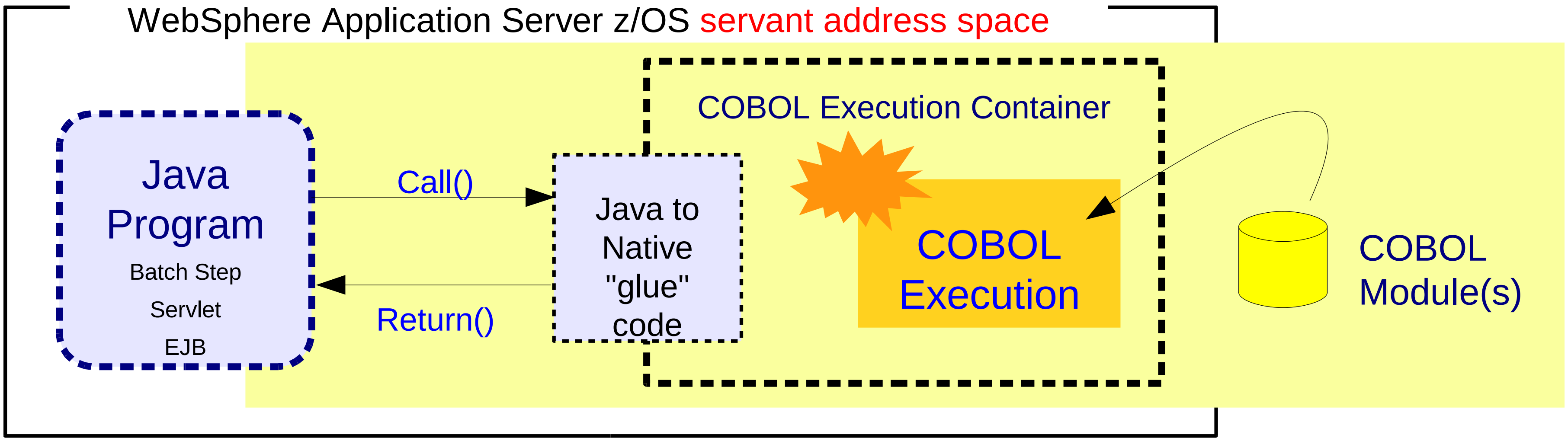
New Batch container for CICS and COBOL interoperability function allows Java batch programs to call CICS and COBOL directly ...



Re-use CICS & COBOL assets with a Java batch job.

The Compute Grid COBOL Container

"COBOL Container" provides the JNI services:


WebSphere Application Server z/OS servant address space
Java Program
Batch Step
Servlet
EJB
Call()
Return()
Java to Native "glue" code
COBOL Execution Container
COBOL Execution
COBOL Module(s)

Important Points:

- Create & destroy COBOL container multiple times in the servant address space
- COBOL container's LE enclave separate from the address space's LE enclave (clean environment)
- JDBC T2 connection can be shared between Java and the COBOL program (maintaining transactional context using RRSAF)

Essentials of the New COBOL Support

Included as part of WebSphere Compute Grid V8.
- Compatible with WAS z/OS V.7 or V.8

The server must run in 31-bit mode since COBOL programs are 31-bit.
And run with a workload profile of ISOLATE (to insure OUTDD back from COBOL works with DISPLAY)

Compiler and Link Edit Options:

- Must be a Dynamic Link Library (DLL)
- Must specify OUTDD(WCGILOUT) so output may go back to Java batch

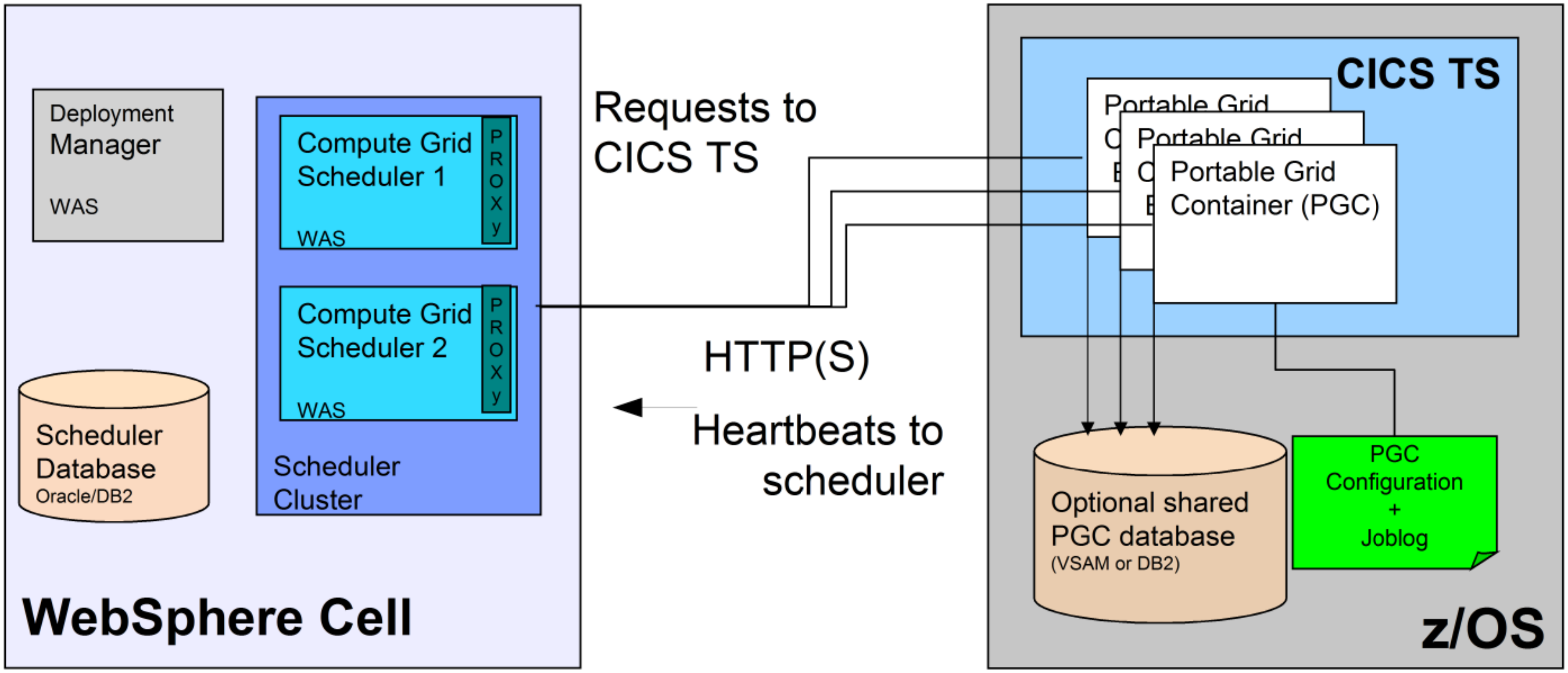
Major pieces of this:

- Runtime support (a few JAR and native files) shipped with WCG V.8
- Development tooling support (JAR files)
- Call Stub Generator utility
- Your Java code, that calls the COBOL module.

Compute Grid & CICS w/ CN11 SupportPac

Batch job in Compute Grid sends HTTP request to CICS to start the transaction program.

CICS matches it against the path in CN11 URIresource to handle the request.



Integration with CICS “CN11” SupportPac

- **SupportPac enables Compute Grid to schedule jobsteps in CICS**
  - Provides Java interfaces to process input and output files in VSAM or DB2
  - Increased availability for CICS during batch processing
  - Automatic Checkpoints & Restarts
- **Compute Grid provides**
  - General job dispatching, management, execute control, monitoring
  - Higher throughput: Process jobs in parallel across multiple CICS regions
  - Locking of data: Updates are synchronised at Checkpoints for I/O resources
  - Failure/Recovery scenarios
    - If batch jobstep fails, Rollback updates, Restore last checkpoint and Retry jobstep.
- **Configuration:**
  - Configure supporting CICS, DB2 and VSAM resources (Sample jobs provided)
  - Customize **`endpoint-config.xml`** & **`CN11PROF`** describing CICS to WCG
  - Initialize the CICS-to-Compute Grid Connection (CN11 Sample CICS tran.)
  - **CN11SampleJCL.xml** sample job provided
    - > *runs a CICS transaction that updates a VSAM file.*

Migration from Compute Grid V 6.1.1 or FP

Notes:
- ***WCG V. 6.1 not supported on WAS V. 8.0.***
- ***WCG V. 8.0 not supported on WAS V. 6.1.***

Migrate the nodes in the following order:

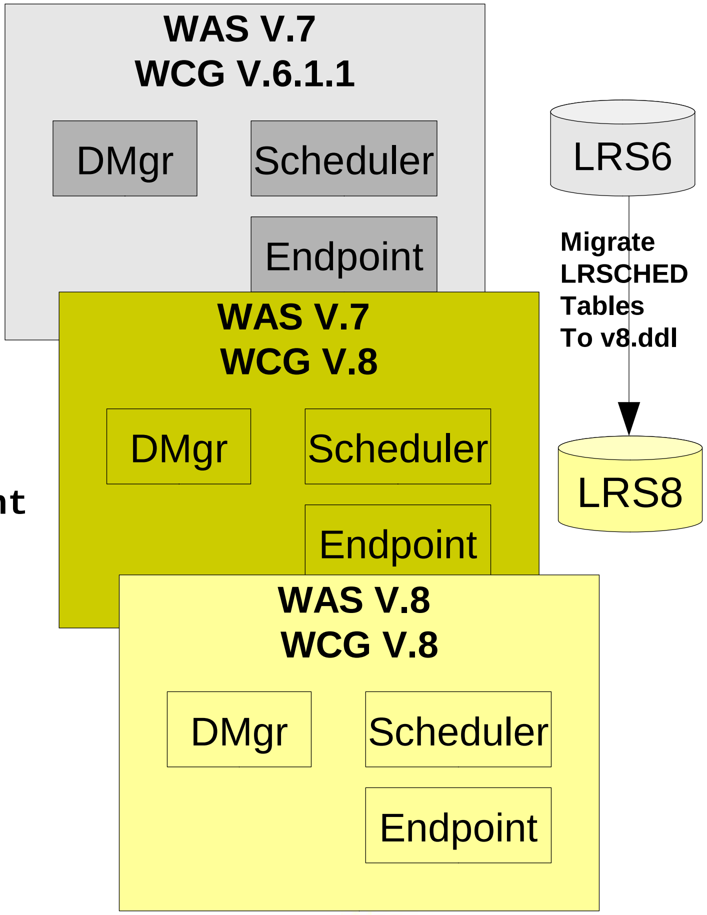
A) Deployment manager.
B) Migrate the databases.
C) Schedulers and endpoints nodes one at a time.

Migrate the Deployment Manager:

1. Run backup script **`migrateWCGConfigTo8.py --backup`**
2. Unaugment Dmgr: **`manageprofiles.sh -unagument`**
3. Install XD Compute Grid V. 8.0. **(Installation Manager)**
4. Augment Deployment manager **`manageprofiles.sh -agument`**
5. Migrate the Database(s) **`MigrateLRSCHEDTablesTov8.ddl`**
6. Run the restore script **`migrateWCGConfigTo8.py --restore`**

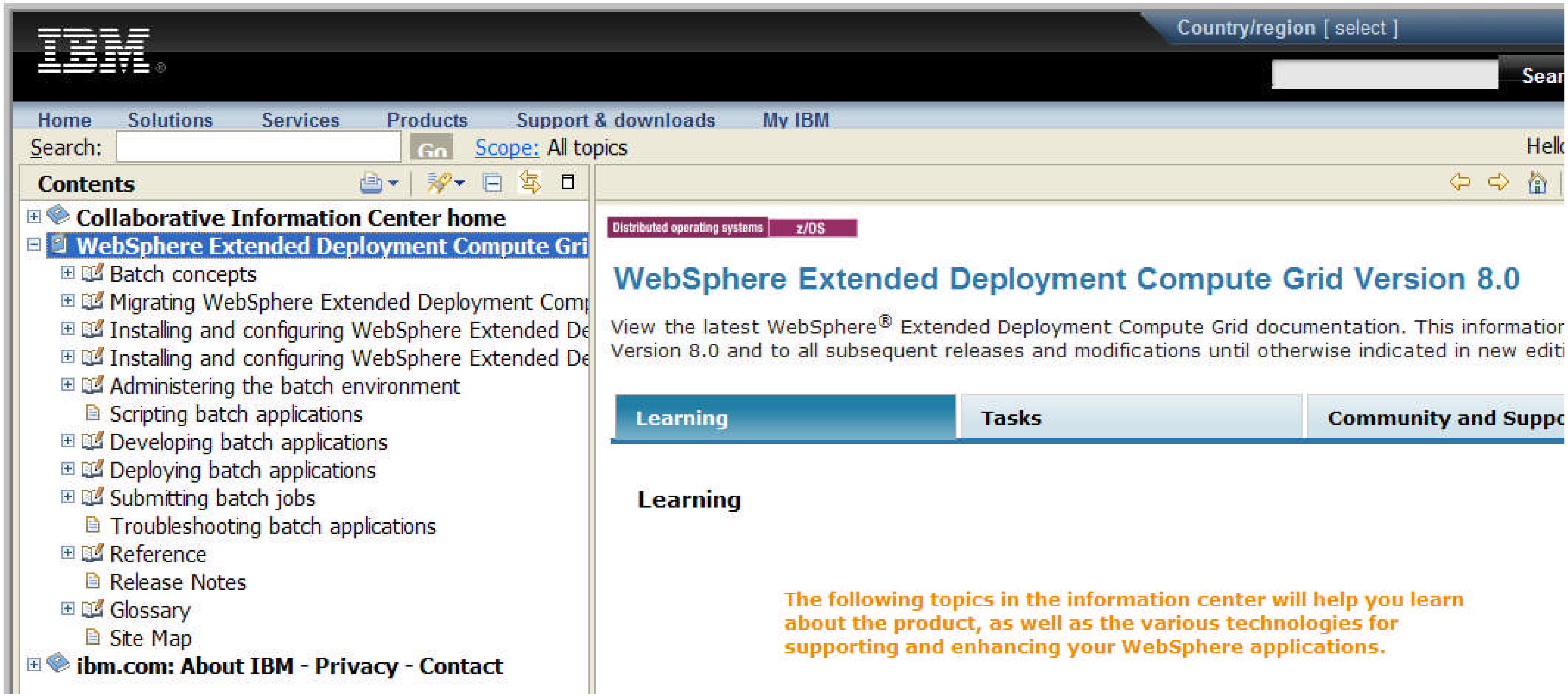
Migrate the Scheduler and Endpoint nodes:

7. Unaugment the profile. **`manageprofiles.sh -unagument`**
8. Install XD Compute Grid V. 8.0. **(Installation Manager)**
9. Augment the scheduler node. **`manageprofiles.sh -agument`**
10. Run the restore script **`migrateWCGConfigTo8.py --restore`**



Information Center & other Resources

http://publib.boulder.ibm.com/infocenter/wasinfo/cgwas80/index.jsp



- Collaborative Information Center home
- WebSphere Extended Deployment Compute Gri
  - Batch concepts
  - Migrating WebSphere Extended Deployment Comp
  - Installing and configuring WebSphere Extended De
  - Installing and configuring WebSphere Extended De
  - Administering the batch environment
  - Scripting batch applications
  - Developing batch applications
  - Deploying batch applications
  - Submitting batch jobs
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WebSphere Extended Deployment Compute Grid Version 8.0

View the latest WebSphere® Extended Deployment Compute Grid documentation. This informatior
Version 8.0 and to all subsequent releases and modifications until otherwise indicated in new editi

Learning

The following topics in the information center will help you learn about the product, as well as the various technologies for supporting and enhancing your WebSphere applications.

Library page: http://www-01.ibm.com/software/webservers/appserv/extend/computegrid/library/
Download docs: http://www.ibm.com/support/docview.wss?uid=swg27021566&wv=1
PTFs: http://www-01.ibm.com/support/docview.wss?rs=404&context=SS7K4U&uid=swg27023073
Techdocs: PRS4644, PRS4467, WP101783 & WP101909
PRS4686 - WAS z/OS Version 8 Configuration Spreadsheets
WP101936 - Migrating to WebSphere XD Compute Grid v8 on z/OS

WebSphere Application Server on z/OS

Session	Day	Time	Room	Title	Speaker
10560	Monday	9:30	International Ballroom F	Version 8 – Overview and Update	David Follis
10580	Monday	11:00	Cottonwood A/B	Back to Basics	Mike Loos
10633	Wednesday	1:30	International Ballroom C	Installation Manager – The Cross Platform Installer for WAS	Mike Loos
10561	Wednesday	3:00	Cottonwood A/B	Version 8 – New z/OS Exploitation Features	David Follis
10562	Thursday	11:00	Cottonwood A/B	Batch Update	John Hutchinson
10581	Thursday	1:30	Cottonwood A/B	Getting Started with Version 8 – Part Zero!	Mike Loos
10518	Thursday	6:00	Cottonwood A/B	Potpourri	Anybody
10516	Friday	8:00	Dogwood B	Level 2 Update	Mike Stephen
10563	Friday	9:30	Pine	Hands on Lab	Mike Stephen, David Follis, Ken Irwin