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Batch and Analysis 101

Objectives

Upon successful completion of this chapter, you will be able to:

- Explain the major components of the Facets core environment
- Explain the major elements of the System Configuration file
- Explain the difference between Run xml files and Procedure xml files
- Explain the application server directory structure
- Explain the manual procedure for executing a batch job
- Explain the available trouble-shooting methods for errors

Upon successful completion of this chapter, you will be able to (continued):

- Explain the three types of execution in a batch step
- Explain the output directory structure
- Explain the available tools for trouble-shooting
- Explain how to use EnableCapture and where to find the output
- Explain the purpose of the **SYML** table in relation to the batch job
- Explain where to find the trouble-shooting parameters in the system configuration file

Upon successful completion of this chapter, you will be able to (continued):

- Explain the function and purpose of each parameter under Database Diagnostics
- Explain the purpose of the SYIN_INST ID

Agenda

Agenda



- ▶ **Hardware and Software**
- ▶ **Facets Application Server**
- ▶ **Batch Processing**
- ▶ **Batch Output**

Hardware

Hardware

Facets Core Environment



Database
Servers



Application
Servers



Interactive
Clients

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Hardware and Software

Hardware and Software



► Database Servers

- IBM
 - AIX 6.1
 - Sybase 15.5
 - Oracle 11g Standard or RAC
- HP
 - HP-UX
 - Sybase 15.5
 - Oracle 11g Standard or RAC
- Intel
 - Windows 2008 Server R2
 - MS SQL Server 2008



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Hardware and Software



► Interactive Clients

- MS Windows 7 – 32 or 64 bit
- JRE 1.6
- IE 9.0 or Firefox 3.6
- MS Visual Studio Tools for Office 3.0
- MS Office 2007 or 2010 – 32 or 64 bit
 - Word
 - Access



Hardware and Software



► **Application Server**

- MS Windows Server 2008
- MS Windows 2010 32 or 64 bit
- IE 9, Firefox v3.6, Google Chrome 5
- JRE 1.6
- MSXML Parser 6.0
- Windows Scripting Host 5.6
- .Net 3.5 SP1



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Hardware and Software



▶ Application Server (continued)

- ODBC Driver:
 - SQL: SQL Native Client 10.5
 - Oracle: 11.2.02
 - Sybase: SDK 15.0 EBF 17890
ESD #24 (32bit)
 - Sybase: SDK 15.0 EBF 17904
ESD #24 (64bit)



Batch Installation

Batch Installation



- ▶ **Application Server Installation:**
 - Creates a Job Manager
 - Not a dedicated role
 - Creates a Letter Server
 - Creates a Region
 - Provides XML files
 - Provides Runtime Libraries
 - Provides pzb/PZB files
- ▶ **Requires logon with Facets-only security encryption on password**



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The setting of power in AppServer determines the engine distribution across the application servers.

During the Batch Installation process, the Job Manager initiates a batch, then steers all subsequent work to other application servers in the environment. After installing the Facets Application Server, the user creates only one network user profile to handle batch operations and uses the “runas” command for running jobs through this profile. The user role for this function is normally a local user or administrator. The best practices recommendation for these procedures suggests that one specified user holds this role considering the requirement of component identity assignment and DCOM configuration's use of one user identity. In order to run and stop properly, the batch user needs Read/Write access permissions to the output directories defined in the “UserOutputDirectory” and “BatchOutputDirectory” parameters in the region configuration file. The same user requires Read/Write access permissions to all temp folders on each application server.

Batch Installation

Batch Installation



► Directories Created During Install:

- Customer
 - Letter Templates
 - Letters
 - Runbook
 - Script
- Regions
 - Creates folder for each config file in environment

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Facets creates these directories during batch installation processes:

- Customer
 - Letter Templates – This contains headers and templates for the letter server.
 - Letters – This is storage for saved letters.
 - Runbook – This is XML Run Files.
 - Script – This is available for Custom VB scripts.
- Regions
 - This creates a folder for each System Configuration file in the environment.

Batch Installation



► **Directories Created During Install:**

- System
 - Bin
 - Config
 - Hlp
 - Setup
 - State
 - Work

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Directories Created During the Install:

- System
 - Bin – This includes dll, executable, and Procedure files.
 - Config – This includes system and pzb files.
 - Hlp – This includes user documentation used for the Interactive client.
 - Setup – This includes system configuration utilities (registry scripts).
 - State – This is a temporary directory for batch use.
 - Work – This is capture log storage.

Batch Installation



► Directories Created During Install:

- Utilities
 - Region Manager Application
 - ErSys0DbLastUpdTrigger.vbs
 - System Log

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Some Facets tables include a **Date/Time** column indicating the date and time when the system inserted and updated the row. Facets provides an additional script utility (ErSys0LastUpdTrigger.vbs) that allows users to select certain tables to update (or create). The trigger code for that script then populates the new column.

On the Facets Application Server, the ErSys0DbLastUpdTrigger.vbs script creates a datetime entry in the SYS_LAST_UPD_DTM column on the table. The user finds this in the Facets\5xx\Utilities directory. Then, using the `C:\Facets\5xx\Utilities\ErSys0DbLastUpdTrigger.vbs --RegionName = (value),-- TableName = (value), --Indicator = (value)` command, the user passes the required parameters to enable or disable the trigger.

In order to test this utility, a user inserts a row in a table with an enabled date/time indicator. The user may then verify the results: a correctly populated **Date/Time** column.

Batch Installation



► Region

- Facets environment consisting of:
 - Database
 - Database server
 - Application server
- Multiple regions can be configured for:
 - Production
 - Testing
 - QA
 - Development
- ErSystCfgSystem5xx.xml holds:
 - Environment information
 - Default variables

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Region:

- A region consists of a Facets environment with a database, a database server, and an application server.

The user may configure multiple regions for:

- Production
- Testing
- QA
- Development

The following script: ErSystCfgSystem5xx.xml holds the environment information and default variables.

ErSystCfgSystem5xx.xml

ErSystCfgSystem5xx.xml



```
<Category name="SystemSignon">
  <Item name="FacetsUser">UserID</Item>
  <Item name="SignonMethod">F</Item>
</Category>
<Category name="Environment">
  <Item name="UserOutputDirectory">C:\Program Files\TriZetto\Facets\5xx\Customer\output</Item>
  <Item name="BatchOutputDirectory">C:\Program Files\TriZetto\Facets\5xx\Customer\output</Item>
  <Item name="ScriptDirectory">C:\Program Files\TriZetto\Facets\5xx\System\Bin</Item>
  <Item name="AppServer" power="1" commarea="Y" default="Y">App Server Name</Item>
  <Item name="RunFileDirectory">C:\Program Files\TriZetto\Facets\5xx\Customer\Runbook</Item>
  <Item name="ProcFileDirectory">C:\Program Files\TriZetto\Facets\5xx\System\Bin</Item>
  <Item name="SQLUtilDir">c:\program files\microsoft sql server\80\tools\bin</Item>
  <Item name="SQLImportExportProgram">bcp.exe</Item>
</Category>
```


ErSystCfgSystem5xx.xml



```
<Category name="Control">
  <Item name="MsgLog">SYML</Item>
  <Item name="RequestWaitTries" commarea="Y">1</Item>
  <Item name="RequestWaitSeconds" commarea="Y">10</Item>
  <Item name="AcknowledgementCountLimit" commarea="Y">50</Item>
  <Item name="NumberOfEngines" commarea="Y">1</Item>
  <Item name="StepCompleteWait">60</Item>
  <Item name="ResumeInterval" commarea="Y">10</Item>
  <Item name="EngineWaitTime" commarea="Y">6</Item>
  <Item name="EOFMode" commarea="Y">C</Item>
  <Item name="EnableSystemAppServers">Y</Item>
  <Item name="OutputType">X</Item>
  <Item name="MergeLogs"></Item>
  <Item name="TempLogRetry">5</Item>
```

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A user may combine all three types of master logs into single files. This process involves copying the “MergeLogs” parameter from the region configuration file into the run file and valuing it with “E,L,O”.

ErSystCfgSystem5xx.xml



```
<Category name="SystemDiagnostics">
  <Item name="ConsoleOutput">True</Item>
  <Item name="TraceSqlOut">False</Item>
  <Item name="TraceFunction">False</Item>
  <Item name="TraceDebug" commarea="Y">False</Item>
  <Item name="TestMode">False</Item>
  <Item name="TraceDictionary">False</Item>
</Category>
```


ErSystCfgSystem5xx.xml



```
<Category name="DatabaseDiagnostics">
  <Item name="EnableCapture">N</Item>
  <Item name="Playback">N</Item>
  <Item name="TimeDifference">N</Item>
  <Item name="MaxTime">00:00:00.000</Item>
  <Item name="DelayTime">N</Item>
  <Item name="CaptureFileDirectory">C:\Program Files\TriZetto\Facets\4xx\System\Work</Item>
  <Item name="DisplayConnectionSpecificationInfo">N</Item>
  <Item name="DisplayGetProcParamsCalls">N</Item>
  <Item name="DisplayResults">N</Item>
  <Item name="DisplayStmtOnly">N</Item>
  <Item name="ReportAllErrors">N</Item>
```


ErSystCfgSystem5xx.xml



```
<Category name="DataDomains">
  <Item name="DataDomain" comment="Y">RegionName</Item>
  <DataDomain name="RegionName">
    <!--Sybase Connection Specifications: PORT will be appended to Datasource, Database required, PacketSize required-->
    <!--Microsoft Connection Specifications: Database required, PacketSize required-->
    <!--Oracle Connection Specifications: "Schema" will replace "Database", required, -->
    <ConnectionSpecification name="SYS0" protocol="ODBC" platform="Microsoft">
      <ConnectionAttribute name="Datasource">ServerName</ConnectionAttribute>
      <ConnectionAttribute name="Database">DB Name </ConnectionAttribute>
      <ConnectionAttribute name="UserID">UserID</ConnectionAttribute>
      <ConnectionAttribute name="Password">Password</ConnectionAttribute>
      <ConnectionAttribute name="ODBCDriver">SQL Server</ConnectionAttribute>
      <ConnectionAttribute name="PacketSize">4096</ConnectionAttribute>
    </ConnectionSpecification>
  </DataDomain>
</Category>
```

Other XML Files

Other XML Files



► Procedure Files (Procbooks)

- Calls underlying application code/stored procedure for each batch process step

...continued

Other XML Files



continued...

```
<Action number="3000_1000">
  <ActionOrder>3000_1000</ActionOrder>
  <Category name="Indicative">
    <Item name="ActionNumber" override="N">3000_1000</Item>
    <Item name="StepId" override="N">BELG</Item>
    <Item name="ExecutionType" override="N">E</Item>
    <Item name="ProgramName" override="N">cerbexe0</Item>
    <Item name="Architecture" override="N" commarea="Y">2X</Item>
  </Category>
  <Category name="Control">
    <Item name="PzapAppld" override="Y" commarea="Y">BELG</Item>
  </Category>
  <Category name="Parameters">
    <Item name="NumberOfEngines" override="Y">2</Item>
```

Other XML Files



► Run Files (Runbooks)

- Calls the Procedure XML
- Overrides the default variables

...continued

Other XML Files

continued...



```
<!--<Item name="BypassStep">1000</Item>-->
<!--<Item name="RestartStep">1000</Item>-->
<!--<Item name="StopStep">1000</Item>-->
<!--<Item name="RunDate">mm/dd/yyyy 00:00:00.000</Item>-->
<!--<Item name="RunThruDate">mm/dd/yyyy 00:00:00.000</Item>-->
<!--<Item name="SbElprMaxQueue">5000</Item>-->
<Step numbers="2000">
  <Category name="Parameters">
<!--#####>
    # Step Level Overrides
    #####-->
    <!--<Item name="EnginesTimesQueues">6</Item>-->
    <Step numbers="3000">
      <Category name="Parameters">
<!--#####>
        # Step Level Overrides
        #####-->
        <!--<Item name="NumberOfEngines" commarea="Y">2</Item>-->
```

XML Files

XML Files



► **Each Procedure file has a matching Run File**

- ErxxxProcyyyy.xml
 - ErCmcProcElig.xml
- ErxxxRunyyyy.xml
 - ErCmcRunElig.xml

► **xxx= cer, cmc, cds, ccs, etc.**

► **yyyy= BILO, CKMM, ELIG, etc.**

Engines and Queues

Engines and Queues



▶ **Engine**

- Instance of programming code that processes data:
 - According to specific application

▶ **Queue**

- A subset of total unprocessed data

▶ **Defaults**

- 2 Engines
- 3 Queues

Multi-engine Batch Format

Multi-engine Batch Format



► 3 Main Steps:

- Preprocessing:
 - Tags work to be processed in batch
 - Creates queues
- Multi-engine:
 - Works on assigned queue rows
- Clean-up:
 - Repeats first 2 steps if data rows were unprocessed

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The Multi-engine Batch Format consists of these three main steps:

1. Preprocessing – This step tags the work batch processes and creates subsets called queues.
2. Multi-engine – The engines work on assigned queue rows until all queues are processed.
3. Cleanup – This step repeats the first two steps using one queue row and one engine to address rows with contention on the database.

Multi-engine Batch Processing

Multi-engine Batch Processing



► The Preprocess step:

- Looks for data to be processed
- Temporary table holds all data to be processed in a batch
- Data grouped together by common element:
 - GRGR_CK or SBSB_CK
 - Divided into queues (QWK0 rows)
- QWK0 row holds range of values:
 - Point to rows of data on temporary table
 - Each QWK0 row status is '0'

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The Preprocess step:

1. Searches for data ready to process

Note: For most batches, Facets holds this data on a trigger table with a status of 01.

2. A temporary table holds all data ready for processing in a specific batch.
3. Facets groups data together by common elements, such as GRGR_CK or SBSB_CK, and divides them into smaller work sets called queues (QWK0 rows).

Note: Each QWK0 row holds a range of values that point to rows of data on the temporary table. The status is 0 for each QWK0 row.

Multi-engine Batch Processing



► Multi-engine Step:

- Application code invoked for engines specified in Run File
- Each engine:
 - Tracked on SENG table
 - QWK0 row selected for process
 - QWK0 row status changes to '10'
 - When data row processes, status changes to '02' (in process)
 - When data rows process, status is '03' (complete)
 - When data rows processed, status is '99' (complete)
- Engine selects next available QWK0 row
 - Repeats process

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The Multi-engine Step:

4. Facets invokes the application code for the number of engines specified in the Run File.
5. Facets tracks each engine on the **SENG** table by a spid number and selects a QWK0 row for processing:
 - a. The QWK0 row status changes to 10 (in process).
 - b. As each pointer presents a data row for processing, the row on the temporary table changes status to 02 – in process.
 - c. As Facets processes each data row, the status changes to 03 – complete.
6. After processing completes for all data rows in the QWK0, the status changes to 99 – complete.
7. The engine selects the next available QWK0 row and repeats the process until processing completes for all QWK0 rows.

Multi-engine Batch Processing



► The Cleanup Step

- If engine competes for same data with another engine:
 - Row is in contention/deadlocked:
 - Status of the QWK0 row remains 10
 - Status of the data row in question is 04
- Facets identifies QWK0 row with:
 - Unprocessed row
 - In process row:
 - Creates single QWK0 row (repeat of Preprocess step)
- One engine invoked to process data sequentially

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The Cleanup Step:

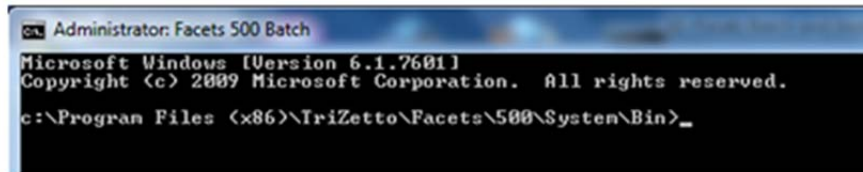
8. If an engine competes with another engine for the same data, the row is in contention or deadlocked. The status of the QWK0 row remains a 10 and the status of the data row in question becomes 04 (deadlocked).
9. Facets identifies the QWK0 row with unprocessed or in process rows and creates a single QWK0 row (a repeat of the Preprocess step).
10. One engine invokes to process the data sequentially (a repeat of the Multi-engine step).

Batch Processing

Batch Processing



- ▶ All batch jobs initiated on Job Manager
- ▶ Jobs initiated in System/Bin when 'cmd' session started



```
Administrator: Facets 500 Batch
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
c:\Program Files (x86)\TriZetto\Facets\500\System\Bin>
```


Batch Processing



► **The command to run batch is**

Cscript ErSys0FrmExecuteJob.wsf --Runbook=runbook name



WSH

Windows Scripting
File

Runbook Definition

64 bit Operating System Note

64 bit Operating System Note



► Facets - 32 bit application

- Must use cscript 32 bit version located in SysWow64 directory

► To call 32 bit cscript version, must qualify from command line:

- Drive:\Windows\SysWow64\cscript
<path>ErSys0FrmExecuteJob.wsf --runbook=<runfile>

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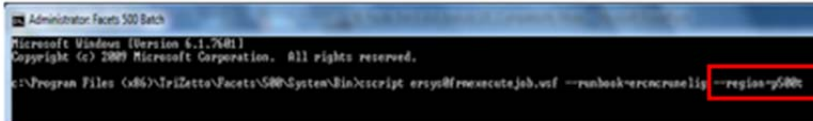
Due to the nature of a 32 bit application, Facets must use the 32 bit version of cscript located in the SysWow64 directory. In order to call the 32 bit version of cscript and qualify Facets, the command lines must show:

Drive:\Windows\SysWow64\cscript <path>ErSys0FrmExecuteJob.wsf --runbook=<runfile>

Batch Processing



- ▶ The command to run batch against a specific region
`Cscript ErSys0FrmExecuteJob.wsf --Runbook=runbook name
--region=region_name`



Specifies a System Configuration File to use for this batch job

Batch Processing



► Command to Stop Batch

- ErSys0AppBatchControl5xx.exe --Runbook=ErCmcRunElig_XXXXX
--Command=Stopjob



Must contain the Run File name
and the System Instance ID
(SYIN_INST)

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The batch control command line tool allows a user control over all running batches. To use this tool:

11. Open a command prompt
12. Find the Queued Work Item Process script: \Facets\501\System\Bin within your Job Manager's home directory
13. Run the Queued Work Item Process console file ErSys0AppBatchControl451

ErSys0AppBatchControl5xx.exe

ErSys0AppBatchControl5xx.exe



Option	Required/ Optional	Description
JobFile_Instance	Required	Runbook; appended with the instance number of the job separated by an underscore. For example, ErCmcRunElig_23542.
Command	Required	<p>KillJob: Hard kill of the job. Engines are killed without regard to where they are in a business transaction.</p> <p>Status: Gives the status of the job. When using this option, if the run file starts with a prefix other than "Er", the parameter "--JobPrefix=XX" must be added, where "XX" is the first two characters of the renamed run file.</p> <p>ServiceControl: Allows you to change the process mode of submission services. The following switches are available:</p> <ul style="list-style-type: none"> • Mode: Required. Sets the process mode of the service. Valid values are Q (Sets the service mode to Queued), R (Sets the mode to Real-time), and S (Returns the current setting). • Service: Required. The name of a submission service to have the process mode switched. • CallingSystem: Optional. The name of the calling system to use (i.e. "Default"). If left blank this request will apply to all calling systems.
Style	Optional	<p>Job: Lists all available job objects on the Facets Virtual Server. This runs by default when "Command=Status" is used.</p> <p>ProcessId: Supply a given process ID to learn which job object it belongs to.</p>

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The batch control command line tool allows the user to control all batches while they run.

ErSys0AppBatchControl5xx.exe



► **Generic:**

- ErSys0AppBatchControl500 JobFile_Instance --Command=[...]
--Action=[...] --Engine=#

► **Status:**

- ErSys0AppBatchControl500 ErCmcRunEnrl_123
--Command=Status --Style=[...] --Content=[....]

► **Kill Job:**

- ErSys0AppBatchControl500 ErCmcRunEnrl_123
--Command=KillJob

Overriding Run File Parameters Using a Text File

Overriding Run File Parameters Using a Text File



- ▶ **Parameters in run file may be taken from a text file by adding to command line:**
 - -@<filename>
- ▶ **Where <filename> is text file name containing commands**
 - One text file passes at a time
- ▶ **Text file contains all needed parameters**
- ▶ **If text file was named "params.txt", switch would be:**
 - -@params.txt



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Facets takes run file parameters from a text file by adding the following switch to the command line: -@<filename>.

<filename> is the name of the text file that contains the commands. Only one text file passes at a time.

The text file contains the requisite amount of parameters. For example:

If the number of engines equals 3 for action 1000 of step 4000, all of step 5000, and the database is FA400, the resulting text file shows:

- NumberOfEngines = 3[4000_1000,5000]
- Database = FA400

If the text file name is "params.txt", Facets uses this switch: -@params.txt

Run Time Option Hierarchy

Run Time Option Hierarchy



- ▶ **When executing a batch job, Facets gathers parameters from these config files:**
 - Run
 - Procedure
 - Region
- ▶ **If two or more different settings for the same parameter are found, the hierarchy finds one to use:**
 - First choice - Parameter from command line or text file
 - Second choice - Parameter from run file, if not commented
 - Third choice - Parameter from procedure file
 - Fourth choice - Parameter from selected region's config file

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When executing a batch job, Facets gathers parameters from the run, procedure, and region configuration files. If the procedure results in two or more different settings for the same parameter in these files; a hierarchy determines the appropriate setting for building the job file:

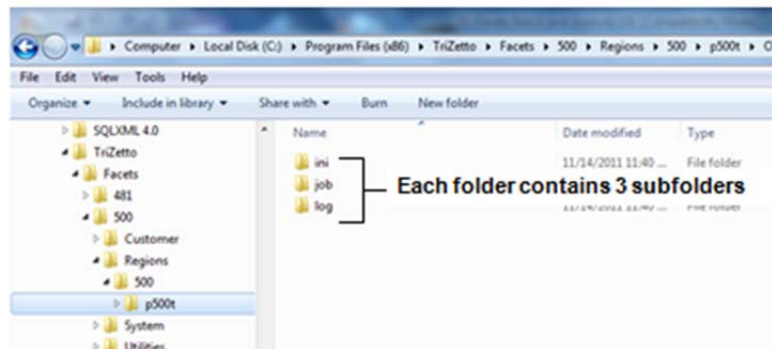
- | | |
|----------------|---|
| First choice: | Parameter from command line or text file (if used) |
| Second choice: | Parameter from run file (if not commented) |
| Third choice: | Parameter from procedure file |
| Fourth choice: | Parameter from the selected region's configuration file |

Batch Output

Batch Output



- ▶ **Output is found in Regions/Output folder**
- ▶ **Each batch has its own folder identified by SYIN_INST number**



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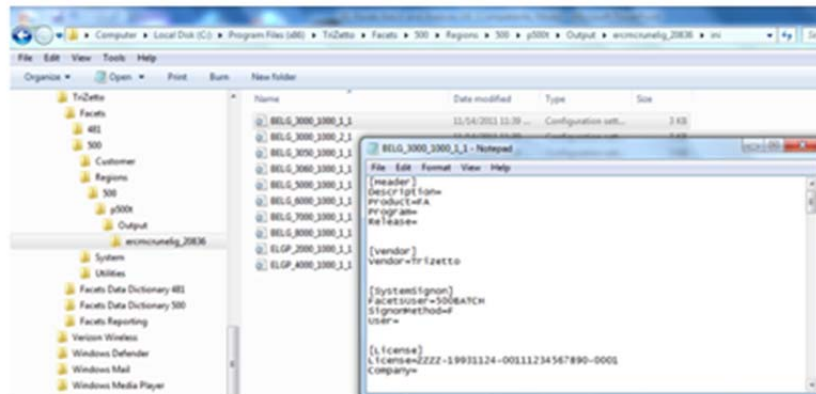
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For the Batch Output, the user finds all output in the Regions/Region _name/Output folder. Facets then identifies each batch through specific folders with a SYIN_INST number.

Batch Output



- The ini folder holds initialization file; one per step



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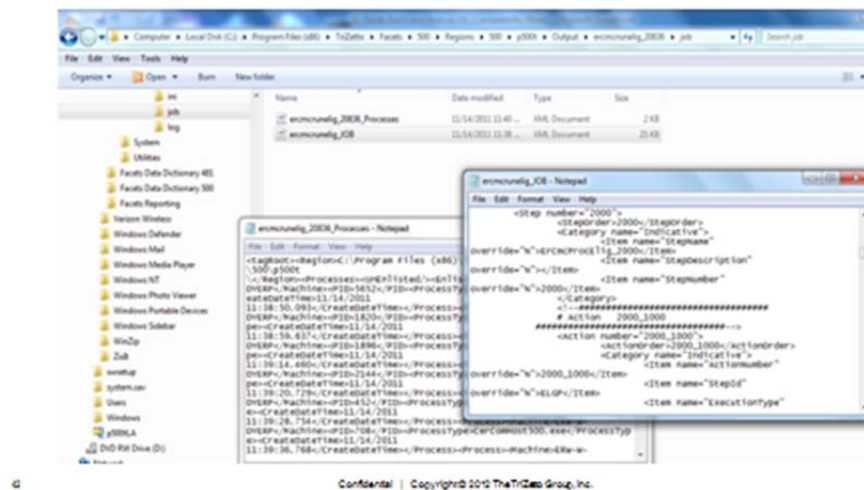
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Batch Output



► Job folder holds:

- Merged file of XML files, list of Process IDs used

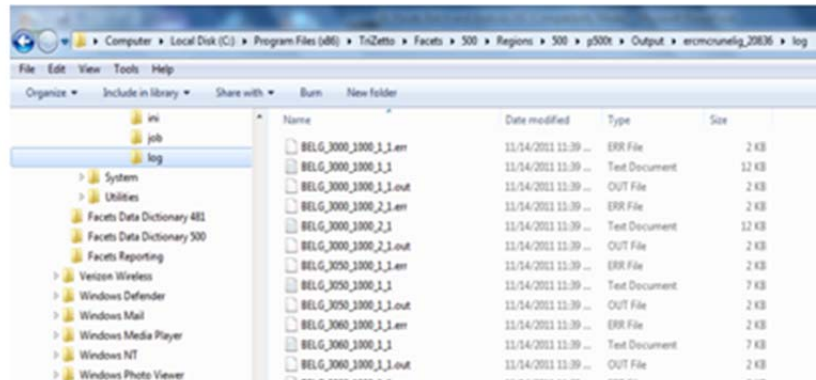


The Batch Output job folder holds the merged file of the XML files and a list of Process IDs used for this job.

Batch Output



- ▶ Log folder holds error, log, and output files for each:
 - Step, action, engine and jcl file



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Batch Output - Sample Error Output

Batch Output – Sample Error Output



```

Application Server: ERM-W-FOYER
Process ID: 11520
*** Standard Error ***
=====
Initialization Phase Started.
Actual Run Start Date and Time [09/14/2006 14:53:30.926]
Initialization Phase Complete.
=====
Execution Phase Started.
Facets - Error: Return Code: 8
Error Code: 10000
Error Message:
Accounting Error - Billing Entity: Group: jfl, Sub Group: jfl
Warning: No G/L Mapping entry -
Type = F Activity = F
Lobd = jfl Acct Category =
User variable 1 = User variable 2 = User variable 3 =
Solution: Correct GL mapping entry.
Journal entry will not have GL number.
Facets - Error: Return Code: 8
Error Code: 10000
Error Message:
Accounting Error - Billing Entity: Group: jfl, Sub Group: jfl
Warning: No G/L Mapping entry -
Type = F Activity = 2
Lobd = jfl Acct Category =
User variable 1 = User variable 2 = User variable 3 =
Solution: Correct GL mapping entry.
Journal entry will not have GL number.
Facets - Error: Return Code: 8
Error Code: 10000
Error Message:
Accounting Error - Billing Entity: Group: jfl, Sub Group: jfl
Warning: No G/L Mapping entry -
Type = F Activity = F
Lobd = jfl Acct Category =
User variable 1 = User variable 2 = User variable 3 =
Solution: Correct GL mapping entry.
Journal entry will not have GL number.
Facets - Error: Return Code: 8
Error Code: 10000
Error Message:

```


Batch Output - Sample Log Output

Batch Output – Sample Log Output



```

===== Run Date Display =====
Actual Run Start Date and Time 09/14/2006 14:53:30.924
Actual Run End Date and Time   09/14/2006 14:58:34.438
Override Run Start Date and Time 08/03/2006 12:00:00.000
Override Run Thru Date and Time 08/03/2006 12:00:00.000

===== Run Control Display =====

===== Run Control Display =====
1. BLEI Read.....149
2. BLEI Updated.....149
3. BLEI From Subscr Detail.....139
4. BLEI From Self B3 Detail.....6
5. BLEI Bypass From Inactive.....16
6. BLEI Bypass From Suspend.....3
7. BLEI Bypass w/Errors.....27
8. BLEI Due dt Proc'd.....5376
9. BLEI Due dt Proc'd Rebill.....0
10. Total Subscr Processed.....251
11. Total BLSE Rows Written.....37
12. Total BLSE Rows Written.....5376
13. Total BLSE Rows Written.....5376
14. Total BLSE Rows Written.....5376
15. Total BLCT Rows Written.....4774
16. Total BLFB Rows Written.....2363
17. Total BLSC Rows Written.....11828
18. Total BLSC Rows Written.....0
19. Total BLSC Rows Written.....0
20. Total BLFF Rows Written.....0
21. Total BLAC Rows Written.....593
22. Total BLCS Rows Written.....8832
23. Total BLAC Rows Written.....13963
24. Total BLAQ Rows Written.....0
25. Total BLAQ Rows Written.....2018
26. Total BLFP Rows Written.....0
27. Total BLFC Rows Written.....56
28. Total Forecasted BLEI.....1
29. Total BLEI Not Recoded.....1

Termination Phase Complete.
The highest return code is: 0
  
```

Using the Batch Balance Equations Application

Using the Batch Balance Equations Application



► **Facets System Administration (SA) product has a Batch Balancing application:**

- Defines batch analysis options using Application Maintenance
- Options assigned to batch jobs include:
 - Medical Claim Payment Batch
 - Multiple Engine Enabled (ErCmcRunCkmm)
 - Medical Electronic Adjudication
 - Multiple Engine Enabled (ErCmcRunCImu)
 - Prepriced Claims Processing (ErCmcRunCpc0)
 - Encounter Electronic Adjudication (ErCmcRunCleu)

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When the user enables these options, new run control sections appear that report on balancing and performance.

To define Batch Balance Equations:

14. Navigate to the System Data application group and open the Batch Balance Equations application.
15. Selecting the **File** menu and then selecting the **New** menu item creates a new set of batch balance equations.
16. Selecting the **File** menu and then selecting the **Open** menu item opens an existing set.
17. Entering a unique ID identifies this set of batch balancing equations.

Using the Batch Balance Equations Application



- ▶ **Equation Description**
- ▶ **Tolerance Type**
 - Valid Values: B – Both, N – Number, P - Percent
- ▶ **Tolerance Number**
- ▶ **Tolerance Percentage**

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Equation Description - Enter a description for this Batch Balancing Equation ID.

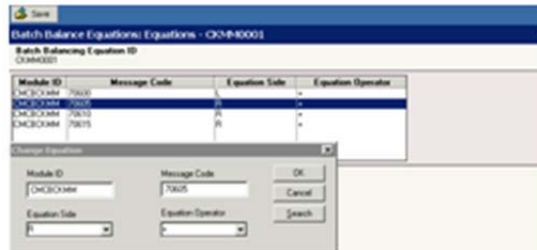
Tolerance Type - Select a method for the system to analyze batch balance performance.
Valid values:

- B – Both
- N – Number
- P - Percent

Tolerance Number - Enter the number of transactions tolerated by the batch balance performance analysis.

Tolerance Percentage -Enter the percentage of transactions tolerated by the batch balance performance analysis.

Using the Batch Balance Equations Application

Module ID	Message Code	Equation Side	Equation Operator
CMCRODM	7905	L	+
CMCRODM	7905	R	+
CMCRODM	7905	R	+

- ▶ **Module ID**
- ▶ **Message Code**
- ▶ **Equation Side**
- ▶ **Equation Operator**

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Module ID - Enter the ID of the batch job Facets performs balancing on.

Message Code - Enter the SYMD identifying the batch results being balanced.

Equation Side - Select the side of the equation on which Facets evaluates this Module ID. Valid values:

- L = Left
- R = Right

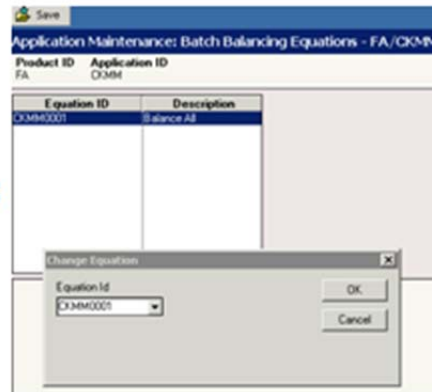
Equation Operator - Select the operation Facets performs on the balancing data from this Module ID. Valid values:

- + = Plus
- - = Minus

Using the Batch Balance Equations Application



- ▶ Define options, then run Application Maintenance application
- ▶ Open batch job's Product and Application IDs
- ▶ Add row for Batch Balancing Equation set



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18. After defining the options, the user may then run the Application Maintenance application in the Application group.
19. Then, the user opens the batch job's Product ID and Application ID and navigates to the **Batch Balancing Equations** page.
20. Add a row for the Batch Balancing Equation set associated with the batch job.

Troubleshooting

Troubleshooting



▶ Batches should end with Final Return Code "0"

▶ If batch ends in "8":

- Look at jcl file for step with Return Code "8"
- Look at error log and out files
- System errors result in Return Code "8"
 - Data errors will not return code "8"
- Correct error
- Restart batch

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Ensure all batches end with Final Return Code 0. If a batch ends in an 8, follow these procedures:

21. Review the jcl file for the step with a Return Code 8.
22. Review the error log and out files for the step with the specific error.
23. System errors result in a Return Code 8 (data errors will not return an 8).
24. Correct the error then restart the batch according to the ORM instructions.

Troubleshooting



- ▶ **If error not determined, generate Capture**
- ▶ **Add line `<Item name="EnableCapture">Y</item>` to Runfile step**
 - Rerun batch
- ▶ **XML file generated in System/Work folder**
 - Evaluate for error resolution
 - Send log to Facets Technical Support if no resolution determined

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25. If Facets cannot determine the error, the user generates a Capture file.
26. Find and add `<Item name="EnableCapture">Y</item>` to the Runfile step with the error, then rerun the batch.
27. An XML file generates in the System/Work folder.
28. The user evaluates for error resolution. If he/she cannot determine a resolution, the user needs to contact Facets Technical Support and send the appropriate log.

TraceDebug and TraceDictionary

TraceDebug and TraceDictionary



► **Other troubleshooting tools are**

- TraceDebug
- Trace Dictionary

► **Both are variables in ErSystCfgSystem5xx**

- `<Item name="TraceDebug"commarea="Y">False</Item>`
- `<Item name="TraceDictionary">False</Item>`

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Additional troubleshooting tools include:

- TraceDebug –details debugging information.
- Trace Dictionary –contains contents of VBScript dictionary objects

These tools represent variables in ErSystCfgSystem5xx:

- `<Item name="TraceDebug"commarea="Y">False</Item>`
- `<Item name="TraceDictionary">False</Item>`

Objective Summary

You are now able to:

- Explain the major components of the Facets core environment
- Explain the major elements of the System Configuration file
- Explain the difference between Run xml files and Procedure xml files
- Explain the application server directory structure
- Explain the manual procedure for executing a batch job
- Explain the available trouble-shooting methods for errors

You are now able to (continued):

- Explain the three types of execution in a batch step
- Explain the output directory structure
- Explain the available tools for trouble-shooting
- Explain how to use EnableCapture and where to find the output
- Explain the purpose of the **SYML** table in relation to the batch job
- Explain where to find the trouble-shooting parameters in the system configuration file

You are now able to (continued):

- Explain the function and purpose of each parameter under Database Diagnostics
- Explain the purpose of the SYIN_INST ID

Coming Up

Coming Up



Next we will discuss:

► **Membership Batch**

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