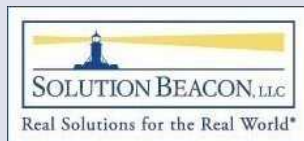


# Technical Foundation - AOL Concurrent Processing

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# Agenda

- Introduction
- Goals and Objectives
- Randy's Rules
- Oracle Information Sources
- Overview of EBS Concurrent Processing
- ERDs, Tables and Scripts
- Q & A

## Introduction

- Randy Giefer, Solution Beacon, LLC
- Oracle DBA for over 15 years
  - Releases 6.x, 7.x, 8*i*, 9*i*, 10*g*
- Apps DBA for over 10 years
  - Releases 10.5, 10.7, 11.0, 11*i*, 12
- OAUG SysAdmin SIG Chairperson
- Aren't you impressed? :-))))))

# Goals and Objectives

- In less than an hour:
  - Educate the attendee in a basic overview of the E-Business Suite (EBS) Concurrent Processing
  - Provide attendee with guidance in what is important to learn about EBS Concurrent Processing
  - Provide attendee with information to take away from the session (i.e. homework) to become successful

## RULE #1 – Be Knowledgeable!

“The Oracle E-Business Suite Tables and Columns are meaningless and confusing unless you understand the Concepts behind how Oracle EBS Concurrent Processing works. Then, and only then, will the Tables and Columns become meaningful... Unfortunately, they will still be confusing.”

Randy Giefer, 2007

## RULE #1 – Be Knowledgeable!

- #1 Beginner mistake - writing SQL without having the proper knowledge of what is being queried!
- The E-Business Suite is complex, confusing and HUGE!
- Easy for SQL statements to produce results, however, they may be:
  - Inaccurate
  - Misleading
  - Just plain wrong

## RULE #2 - Don't Reinvent

- Don't reinvent the wheel! There is a 99% chance someone else has already done what you are trying to do.
- Use what Oracle gives you
  - Scripts
- Use what others have already done
  - OAUG
  - MetaLink
  - Product Installation
  - Internet

## Rule #3 – MetaLink -> L<sup>3</sup>

- Learn it, Live it, Love it
- Absolutely the single BEST resource!

## Oracle Information Sources

- In practicing what I preach... Rule #1 Be Knowledgeable
- Review and learn these notes, and read the documentation *before* writing any code.

## MetaLink References

- Note 260887.1 Steps to Clean Nonexistent Nodes or IP Addresses from FND\_NODES
- Note 134007.1 CMCLEAN.SQL - Non Destructive Script to Clean Concurrent Manager Tables
- Note 105133.1 Concurrent Manager Questions and Answers Relating to Generic Platform
- Note 104452.1 Troubleshooting Concurrent Manager (Unix specific)
- Note 210062.1 Generic Service Management (GSM) in Oracle Applications 11i

## MetaLink References (cont)

- Note 171855.1 CCM.sql Diagnostic Script for Concurrent Manager
- Note 213021.1 Concurrent Processing (CP) / APPS Reporting Scripts !!!!
- And finally: The Technical Reference Manuals ([etrm.oracle.com](http://etrm.oracle.com))

# Oracle Documentation

- Oracle® Applications System Administrator's Guide – Configuration Release 11i (Part No. B13925-06)
  - Chapter 6 - Defining Concurrent Programs and Reports
  - Chapter 7 - Defining Concurrent Managers

## Oracle Documentation (cont)

- Oracle® Applications System Administrator's Guide – Maintenance Release 11i (Part No. B13924-04)
  - Chapter 2 - Managing Concurrent Processing and Concurrent Programs

## Oracle Documentation (cont)

- Oracle Applications Developer's Guide  
Release 11i (Learn it, Live it, Love it too!)

# Overview of EBS Concurrent Processing

# What is Concurrent Processing?

- A mechanism provided within the Oracle E-Business Suite to facilitate the background processing of:
  - Reports
  - Batch runs (e.g. MFG)
  - Longer transactions

# What is Concurrent Processing?

- Series of Background “Managers”
- Separate programs that control the background processing (requests) that are:
  - Initiated on-demand by a user
  - Scheduled

# What is Concurrent Processing?

- Just like at the office, Managers schedule the work, while the “worker bees” do the work
- In the EBS, Concurrent Managers (CMs) schedule the work, and the Concurrent Requests (CRs) do the work.

# What is Concurrent Processing?

- Two basic components:
  - Concurrent Managers
  - Concurrent Requests

# Concurrent Managers

- Internal Concurrent Manager (ICM)
- Standard Manager (SM)
- Specific Concurrent Managers (SCM)
- Conflict Resolution Manager (CRM)

# Concurrent Managers - ICM

- Internal Concurrent Manager (ICM)
- The ICM is the boss of the managers
- Controls the behavior of all of the other managers
- Must be running before any other managers can be activated
- The main functions of the ICM:
  - start up and shutdown the individual concurrent managers
  - reset the other managers after one them has a failure

## Concurrent Managers – SM & SCM

- Standard Manager (SM) and Specific Concurrent Managers (SCM)
- The SM functions to run any reports and batch jobs that have not been defined to run in any specific product manager.
- The Specific Concurrent Managers (SCMs) include the Inventory Manager, CRP Inquiry Manager, and the Receivables Tax Manager.

# Concurrent Managers - CRM

- Conflict Resolution Manager (CRM)
- Handles scheduling conflicts
  - Checks concurrent program definitions for incompatibility rules

# Concurrent Managers Tables

- Base Tables
  - FND\_CONCURRENT\_PROGRAMS
  - FND\_CONCURRENT\_PROCESSES
  - Owned by applsys

# What is Concurrent Processing?

- Two basic components:
  - Concurrent Managers
  - Concurrent Requests

# Concurrent Requests

- A Concurrent Request is the 'worker' that gets scheduled and controlled by Concurrent Managers
- The base table is  
FND\_CONCURRENT\_REQUESTS (FCR)

## Life Cycle of a Concurrent Request

- A concurrent request proceeds through three (possibly four) life cycle phases:
  - **Pending** - Request is waiting to be run
  - **Running** - Request is running
  - **Completed** - Request has finished
  - **Inactive** - Request cannot be run

# FCR Pending Statuses

- PENDING Normal
- PENDING Standby
- PENDING Scheduled
- PENDING Waiting
- RUNNING
- COMPLETED
- INACTIVE

# FCR Running Statuses

- PENDING
- RUNNING            Normal
- RUNNING            Paused
- RUNNING            Resuming
- RUNNING            Terminating
- COMPLETED
- INACTIVE

# FCR Completed Statuses

- PENDING
- RUNNING
- COMPLETED      Normal
- COMPLETED      Error
- COMPLETED      Warning
- COMPLETED      Cancelled
- COMPLETED      Terminated
- INACTIVE

# FCR Inactive Statuses

- PENDING
- RUNNING
- COMPLETED
- INACTIVE            Disabled
- INACTIVE            On Hold
- INACTIVE            No Manager

## Querying The Database

- Basic understanding should now be accomplished
- Base tables are owned by schema APPLSYS
- Base table names begin with FND (foundation) -> APPLSYS.FND\_

## eTRMs

- Entity Relationship Diagrams ERDs at <http://etrm.oracle.com>
  - Concurrent Processing ERD.pdf
  - Concurrent Request Sets ERD.pdf
  - Concurrent Requests ERD.pdf

## Some of the Tables

- TABLE - APPLSYS.FND\_CONCURRENT\_PROCESSES
- TABLE - APPLSYS.FND\_CONCURRENT\_PROCESSORS
- TABLE - APPLSYS.FND\_CONCURRENT\_PROGRAMS
- TABLE - APPLSYS.FND\_CONCURRENT\_PROGRAMS\_TL
- TABLE - APPLSYS.FND\_CONCURRENT\_PROGRAM\_SERIAL
- TABLE - APPLSYS.FND\_CONCURRENT\_QUEUES
- TABLE - APPLSYS.FND\_CONCURRENT\_QUEUES\_TL
- TABLE - APPLSYS.FND\_CONCURRENT\_QUEUE\_CONTENT
- TABLE - APPLSYS.FND\_CONCURRENT\_QUEUE\_PARAMS
- TABLE - APPLSYS.FND\_CONCURRENT\_QUEUE\_SIZE
- TABLE - APPLSYS.FND\_CONCURRENT\_REQUESTS

## Some of the Views

- FND\_CONCURRENT\_PROGRAMS\_VL
- FND\_CONCURRENT\_QUEUES\_VL

## \$FND\_TOP/sql Scripts

- **afimchk.sql** Tells the status of the ICM
- **afcmstat.sql** Lists active manager processes
- **afrqrun.sql** Lists all the running, waiting and Terminating requests
- **afrqwait.sql** Lists requests that are constrained and waiting for the ICM to release them.
- **afrqscm.sql** Prints log file name of managers that can run a given request.
- **afcmcreq.sql** Prints the log file name of the manager that processed the request
- **afrqstat.sql** Summary of completed concurrent requests grouped by completion status and execution type..
- **afimlock.sql** Lists locks that the ICM is waiting to get
- **afcmrrq.sql** Lists managers that currently are running a request

# \$FND\_TOP/sql/afrqrun.sql

```
TTITLE 'Running Requests'
Select  Request_Id Reqst, User_Name Requestor, Oracle_Username Orcl,
        Fcr.Logfile_Name LN,
        Concurrent_Queue_Name Manager,
        Concurrent_Program_Name Program,
        To_Char(Actual_Start_Date, 'Mm-Dd-Yy Hh24:Mi') Started,
        Run_Alone_Flag, Single_Thread_Flag
From    Fnd_Concurrent_Requests Fcr, Fnd_Concurrent_Programs Fcp,
        Fnd_Oracle_Userid O, Fnd_Concurrent_Processes P,
        Fnd_Concurrent_Queues Q, Fnd_User
Where   Controlling_Manager = Concurrent_Process_ID
        And ( P.Concurrent_Queue_ID = Q.Concurrent_Queue_ID
        And   P.Queue_Application_ID = Q.Application_ID )
        And   O.Oracle_Id = Fcr.Oracle_Id
        And ( Fcr.Program_Application_Id = Fcp.Application_Id
        And   Fcr.Concurrent_Program_Id = Fcp.Concurrent_Program_Id )
        And   Requested_By = User_Id
        And   Phase_Code = 'R' and Status_Code = 'R'
Order  By Actual_Start_Date, Request_Id;
```

# Common SQL Decodes - FCR

```
DECODE(fcr.phase_code,  
       'C', 'Completed',  
       'I', 'Inactive',  
       'P', 'Pending',  
       'R', 'Running',  
       fcr.phase_code)  
  
...  
FROM fnd_concurrent_requests fcr
```

## Common SQL Decodes - FCR

```
DECODE(fcr.status_code,  
      'A', 'Waiting',      'B', 'Resuming',  
      'C', 'Normal',      'D', 'Cancelled',  
      'E', 'Errored',     'F', 'Scheduled',  
      'G', 'Warning',     'H', 'On Hold',  
      'I', 'Normal',      'M', 'No Manager',  
      'Q', 'Standby',     'R', 'Normal',  
      'S', 'Suspended',   'T', 'Terminating',  
      'U', 'Disabled',    'W', 'Paused',  
      'X', 'Terminated',  'Z', 'Waiting',  
      fcr.status_code)  
...  
FROM fnd_concurrent_requests fcr
```

# Common SQL Decodes - FCPG

```
DECODE (fcpg.execution_method_code,  
        'A', 'Spawned',  
        'F', 'Flexsql',  
        'H', 'Host',  
        'I', 'PL/SQL',  
        'L', 'SQL*Loader',  
        'P', 'Oracle Rpt',  
        'Q', 'SQL*Plus',  
        'R', 'SQL*Report',  
        'S', 'Immediate',  
        'X', 'FlexRpt',  
        fcpg.execution_method_code),  
...  
FROM fnd_concurrent_programs fcpg
```

# Questions and Answers



Thank you!

<Presenter Name(s)>  
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