

Repeatable, Reliable – FNDLOAD

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Agenda

- Business Need
- Migration Alternatives
- Overview of FNDLOAD
- What to Migrate Between Instances
- Data Preservation
- How to Migrate Between Instances
- Configuration Files
- Examples
- Migration Issues
- XDOLoader



Business Need for Data Migration

- Implementations
 - Migrate all setups between Development, multiple test environments and production
 - Migrate application data between instances
 - Suppliers
 - Inventory Orgs
 - Banks
- Change Management
 - Migrate selected objects between instances
 - New concurrent program
 - New form personalizations
 - Approvals Management



Migration Alternatives

- Manual
 - Data entry errors are a problem
 - Time consuming
- 3rd Party Applications
 - Expensive
 - One more application to maintain
- iSetup
 - E-Business suite application tool for functional users
 - Recommended for implementation process
 - Migrates setups as well as application data such as Suppliers, Inventory Orgs, etc...
 - Limited ability to migrate individual objects –
 - Not always ideal for change management
 - No data preservation for seeded or more recent data
 - No language translation features
 - Source and target must be at the same patch set level





Overview of FNDLOAD

- Unix command line tool for developers
 - Create unix scripts to streamline
- Good for on-going change management
- Standard “out of the box” Oracle Applications Functionality
- Use configuration file (.lct) provided by Oracle
 - Ensures repeatable process
 - FND – Located in \$FND_TOP/patch/115/import
 - AME/HR – Located in \$PER_TOP/patch/115/import
- Optionally create custom configuration files
 - Not supported by Oracle




Overview of FNDLOAD

- Text based data files (.ldt) created by FNDLOAD
- Files transferable to any Oracle Applications instance
- Source and Target do not have to be at the same patch level as a general rule
 - 10.7 → 11i would not work due to language translation tables
- Primarily for configuration data – not application data
- Data preservation options protect seeded values



What to Migrate with FNDLOAD

- Concurrent Programs, Executables
- Request Groups, Request Sets
- Profile Options
- Key and Descriptive Flexfields
- Menus and Responsibilities
- Forms and Form Functions
- Attachments
- Messages
- Value Sets and Values
- Lookup Types
- User Responsibilities
- Printer Definitions
- FND Dictionary
- Help Configuration
- Document Sequences
- Concurrent Manager Schedules
- Forms Personalizations
- Approvals Management Objects
 - Not in iSetup yet



Additional Objects to Migrate with iSetup

- Discrete Mfg and Distribution Setups
- Employees
- Financials Operating Units
- Financials Setups
- GL Daily Rates
- Organization Structure
- Payroll Elements
- Product Foundation
- Profitability Manager Setups
- Suppliers
- Transfer Pricing Setups
- XML Publisher



Data Preservation

- OWNER and LAST_UPDATE_DATE ensure data preservation
 - New records are always uploaded
 - OWNER=SEED
 - Will not overwrite OWNER=CUSTOM
 - OWNER=CUSTOM
 - Always overwrites OWNER=SEED
 - If OWNERS are the same
 - Keeps Record with most recent LAST_UPDATE_DATE



How to Migrate Data

- Executable located in \$FND_TOP/bin

FNDLOAD <apps/\$APPS_PW> 0 Y <Mode> <Configfile>
<target data file> <entity> <parameter>

- 0 Y = Concurrent Program Flags
- Mode = UPLOAD, UPLOAD_PARTIAL or DOWNLOAD
- Configfile = Configuration file (.lct) provided by Oracle in \$FND_TOP/patch/115/import
- Target Data File = Name of the file (.ldt) to be created by Download or used by Upload. This file contains the definition of the entity being migrated.
- Entity = type of object being migrated (printer style, lookup, executable,...)
- Parameter = parameter related to the entity (Which printer style, lookup, etc)



Migrate a Single Concurrent Program

FNDLOAD apps/apps 0 Y DOWNLOAD

\$FND_TOP/patch/115/import/afcpprog.lct mydata.ldt

CONCURRENT_PROGRAM

CONCURRENT_PROGRAM_NAME='GLIMP'

- Utilize attributes on the download to limit data in .ldt file
- Downloads concurrent program data for the concurrent program short name 'GLIMP' using the afcpprog.lct configuration file into mydata.ldt file

FNDLOAD apps/apps 0 Y UPLOAD

\$FND_TOP/patch/115/import/afcpprog.lct mydata.ldt

- Uploads all the data in mydata.ldt
 - In this case, only concurrent program 'GLIMP'



UPLOAD PARTIAL DATA

FNDLOAD apps/apps 0 Y DOWNLOAD

\$FND_TOP/patch/115/import/afcpprog.lct mydata.ldt

APPLICATION_NAME='FND'

- Download all concurrent program data for the FND application into mydata.ldt file

FNDLOAD apps/apps 0 Y UPLOAD_PARTIAL

\$FND_TOP/patch/115/import/afcpprog.lct mydata.ldt

CONCURRENT_PROGRAM

CONCURRENT_PROGRAM_NAME='GLIMP'

- Utilize attributes on the upload to limit data uploaded from ldt file that contains multiple records
- Uploads only the data for the concurrent program short name = 'GLIMP' from a text file that contains all concurrent programs



Configuration File Layout

- Comments Section
- Define Block
 - Specifies structure

```
DEFINE <entity> KEY <key_attribute_name> <datatype> ...  
(BASE|TRANS|CTX) <attribute_name> <datatype> ...  
[DEFINE <child_entity> ...]  
END <entity>
```
- Download Block
 - SQL Statement containing bind variables to select rows to download
 - Look here for available parameters
- Upload Block
 - SQL statement or anonymous PL/SQL block to accept file data and load it into the database



Configuration File List - FND

- \$FND_TOP/patch/115/import

```
afattach.let    affrmeus.let    afseprof.let    fndpicla.let
afcpexec.let    afindust.let    afscursp.let    fndpidef.let
afcpplib.let    aflvmlu.let     afsload.let     fndpipra.let
afcpmime.let    afmdmsg.let     afsncat.let     fndpipur.let
afcppinf.let    afmlhelp.let    afsvcc.let      fndprtdep.let
afcpprint.let   afmoinit.let    afsvccet.let    fndstd.let
afcpprog.let    afnls.let       aftz.let        fwktbxlookups.let
afcppstl.let    afoamegp.let    afumsaru.let    m57hrupv2.let
afcpque.let     afoamdsalgo.let afums.let       makhtml.let
afcpregg.let    afoamdseproc.let afwfds.let      mappsnav.let
afcprset.let    afoamdsw.let    afwfload.let    umxrgsvc.let
afcpsch.let     afoammet.let    fndatttm.let    wfdpart.let
afcpsrvs.let    afpinit.let     fnddmrepos.let  wfdpview.let
afcpwksh.let    afplist.let     fnddmsec.let    wfdrole.let
afdiet.let      afprfma.let     fndfold.let     wfmlrp.let
afdskob.let     afpvalue.let    fndfwkmsg.let   wfmlrt.let
affaudit.let    afrole.let      fndobjt.let     wfntfrules.let
afffload.let    afscapp.let     fndpiagg.let
```



Configuration File List - FND

- \$PER_TOP/patch/115/import

```
amesaagc.lct  amesrule.lct  hrortlct.lct  hrwnplct.lct  perkioty.lct
amesaatc.lct  amesrulk.lct  hrsftlct.lct  ircrecst.lct  perkitpc.lct
amesactu.lct  hrcnplct.lct  hrteplct.lct  peapilct.lct  perkiucx.lct
amesacus.lct  hrcustfm.lct  hrtculct.lct  peastamd.lct  perlocit.lct
amesappg.lct  hrdlvtmp.lct  hrtgdglet.lct  pepcilct.lct  peroit.lct
amesappo.lct  hrfcnlet.lct  hrticlet.lct  pequatyp.lct  perperit.lct
amesappr.lct  hrfdglet.lct  hrtiplct.lct  perait.lct    perpjxit.lct
amesapty.lct  hrfgilet.lct  hrtiwlet.lct  perast.lct    perposit.lct
amescond.lct  hrfitlet.lct  hrtmplct.lct  percit.lct    perriwkb.lct
amesconk.lct  hrfmplct.lct  hrtmplte.lct  perclndr.lct  perschih.lct
amescvar.lct  hrfsclet.lct  hrtpplet.lct  perdit.lct    persdslt.lct
ameshelp.lct  hrftplet.lct  hrtskflw.lct  perdpt.lct    perspt.lct
amesicls.lct  hrfwnlet.lct  hrttplet.lct  pergnhrc.lct  perstt.lct
amesiclu.lct  hricxlet.lct  hrtwulct.lct  pergnnds.lct  pertpt.lct
amesmatr.lct  hritplet.lct  hrupqweb.lct  perinfts.lct
amesmatt.lct  hrletter.lct  hrwfunit.lct  perjobit.lct
amespdan.lct  hrnameft.lct  hrwkflow.lct  perkihrc.lct
```



Configuration File Layout

- Comments Section

```
# $Header: affrmcus.lct 115.8 2007/01/22 20:38:23 dbowles noship $
# affrmcus - FND Forms Customizations Loader Configuration
#
# Entities -
#
#     FND_FORM_CUSTOM_RULES
#     FND_FORM_CUSTOM_ACTIONS
#     FND_FORM_CUSTOM_PARAMS
#     FND_FORM_CUSTOM_SCOPES
# Note: to change the language you are downloading, setenv NLS_LANG before
# running the loader.
#
COMMENT = "dbdrv: exec fnd bin FNDLOAD bin &phase=daa+70 checkfile:~PROD:~PATH:~FILE
&ui_apps 0 Y UPLOAD @FND:patch/115/import/affrmcus.lct @~PROD:~PATH/~FILE"
# Parameters -
#     (1) FUNCTION_NAME=VALUE      (WHILE DOWNLOAD ONLY)
#     (2) FORM_NAME=VALUE          (WHILE DOWNLOAD ONLY)
#
```

Look in comments for entities

Look in comments for parameters



Configuration File Layout

- Define Section

```
DEFINE FND_FORM_CUSTOM_RULES
KEY_ID VARCHA2 (50)
BASE FUNCTION_NAME VARCHA2 (30)
BASE DESCRIPTION VARCHA2 (255)
BASE TRIGGER_EVENT VARCHA2 (30)
BASE TRIGGER_OBJECT VARCHA2 (100)
BASE CONDITION VARCHA2 (2000)
BASE SEQUENCE VARCHA2 (50)
BASE CREATED_BY VARCHA2 (50)
BASE CREATION_DATE VARCHA2 (11)
BASE OWNER VARCHA2 (4000)
BASE LAST_UPDATE_DATE VARCHA2 (11)
BASE LAST_UPDATE_LOGIN VARCHA2 (50)
BASE ENABLED VARCHA2 (1)
BASE FIRE_IN_ENTER_QUERY VARCHA2 (1)
BASE RULE_KEY VARCHA2 (30)
BASE FORM_NAME VARCHA2 (30)
BASE RULE_TYPE VARCHA2 (1)
```

Also search for
"DEFINE" to find
Entities

Configuration File Layout

- Download Section

```
DOWNLOAD FND_FORM_CUSTOM_RULES ◆
"select ID,
        FUNCTION_NAME,
        DESCRIPTION,
        TRIGGER_EVENT,
        TRIGGER_OBJECT,
        CONDITION,
        SEQUENCE,
        CREATED_BY,
        to char(CREATION_DATE, 'YYYY/MM/DD') CREATION_DATE,
        fnd_load_util.owner_name(LAST_UPDATED_BY) OWNER,
        to char(LAST_UPDATE_DATE, 'YYYY/MM/DD') LAST_UPDATE_DATE,
        LAST_UPDATE_LOGIN,
        ENABLED,
        FIRE_IN_ENTER_QUERY,
        RULE_KEY,
        FORM_NAME,
        RULE_TYPE
from fnd_form_custom_rules
where CREATED_BY <> 1
      and (:FUNCTION_NAME is null or (:FUNCTION_NAME is not null and function_name
like :FUNCTION_NAME))
      and (:FORM_NAME is null or (:FORM_NAME is not null and form_name like
:FORM_NAME))
order by FORM_NAME, FUNCTION_NAME"
```

Search for "DOWNLOAD" to view sql for downloaded entities

Search for bind variables in the first download section to determine attributes available



Configuration File Layout

- Upload Section
 - Typically a pl/sql block

```
UPLOAD FND_FORM_CUSTOM_RULES
BEGIN
  DECLARE
    f_luby          number; -- entity owner in file
    f_ludate       date;  -- entity update date in file
    f_creator      number;
    --db_luby      number; -- entity owner in db
    --db_ludate    date;  -- entity update date in db
    f_form_name    varchar2(30);

  BEGIN
    -- we really should not ever run in NLS mode, as the lct file is not used to deliver
    Oracle NLS translated ldt files
    if :UPLOAD_MODE='NLS' then
      return;
    else
      -- Translate owner to file last updated by
      f_luby := fnd_load_util.owner_id(:OWNER);
    end if;
  END;
END;
```

Search for "UPLOAD" to view sql for uploaded entities



Example – Concurrent Programs

- Concurrent Programs – [afcpprog.lct](#)
- Parameters
 - EXECUTABLE_NAME
 - APPLICATION_SHORT_NAME
- Entities
 - Program
 - Incompatibilities
 - Executable
 - Value Sets, DFFs, KFFs, Security Rules, etc...referenced by concurrent program



Example – Request Groups

- Request Groups – [afcpregg.lct](#)
- Parameters
 - REQUEST_GROUP_NAME
 - APPLICATION_SHORT_NAME
- Entities
 - Request Group
 - Request Group Unit



Example – Profile Options

- Profile Options – [afscprof.lct](#)
- Parameters
 - PROFILE_NAME
 - APPLICATION_SHORT_NAME
 - LEV (Site, Responsibility, Application, User)
 - LEV_NAME (value of LEV)
- Entities
 - Profile
 - Profile Option Value
 - Profile Category Options and Values



Example – AME

- Transaction Types – amescvar.lct
 - Parameters
 - APPLICATION_SHORT_NAME
 - TRANSACTION_TYPE_ID
- Approver Types – amesapty.lct
 - Parameter – ORIG_SYSTEM
- Item Classes – amesicls.lct
 - Parameter – ITEM_CLASS_NAME



Example – AME

- Attributes
 - Requires both Attributes and Attribute Usages for migration
 - Attributes – amesmatt.lct
 - Attribute Usages – amesmatr.lct
- Conditions – amesconk.lct
- Parameters for attributes, attributes usages and conditions
 - APPLICATION_SHORT_NAME
 - TRANSACTION_TYPE_ID
 - ATTRIBUTE_NAME



Example – AME – Approver Groups

- Approver Groups
 - Requires both Approver Groups and Approver Group Configurations for migration
 - Approver Group Configurations – amesaagc.lct
 - Parameters
 - APPLICATION_SHORT_NAME
 - APPROVAL_GROUP_NAME
 - Approver Groups – amesappg.lct
 - PARAMETER: APPROVAL_GROUP_NAME
 - Dynamic approver groups only; Does not work for static approver groups.
 - Approver group names must not contain spaces.
 - Use the % wildcard symbol in between each word of the approver group if spaces exist
 - Parameter for approver group name is required
 - Must supply the name of an approver group or some matching pattern
 - Use a common prefix when naming the approver group to make it easier to download all approver groups



Example – AME – Rules

- Rules
 - Requires both Rule Actions and Rules for migration
 - Rule Actions – amesactu.lct
 - Parameters
 - APPLICATION_SHORT_NAME
 - TRANSACTION_TYPE_ID
 - RULE_KEY
 - Rules – amesrulk.lct
 - Parameters
 - APPLICATION_SHORT_NAME
 - TRANSACTION_TYPE_ID
 - RULE_KEY
 - Includes rules, conditions and rule type
 - Use of wildcard symbols such as % are not allowed



Common Issues

- Inconsistent deletion of rows
 - FNDLOAD does not always delete rows
 - Depends on configuration file
- Request Sets
 - FNDLOAD will not delete stages or programs from request sets when run in UPLOAD mode
- Concurrent Programs
 - FNDLOAD will delete parameters when using force mode
- AME
 - AME is currently experiencing problems with migration of subsequent changes although the initial load works well



XDOLoader

- Java-based utility to load template files for XML Publisher
 - RTF
 - PDF
 - XSL-FO
 - XML
 - XSD
- Includes download and upload utility
- See MetaLink Doc Id: 469585.1





References

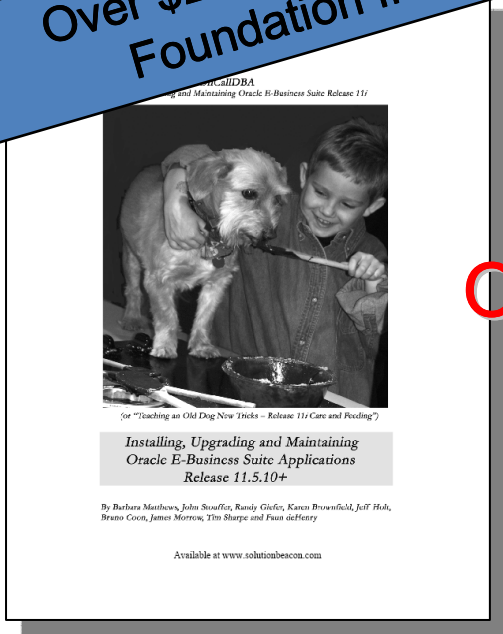
- MetaLink Note 274667.1 – Contains FNDLOAD command syntax
- MetaLink Doc Id: 472248.1 – Contains details for FNDLOAD options for Approvals Management
- Oracle Applications System Administrator's Guide - Configuration
- Oracle iSetup User Guide



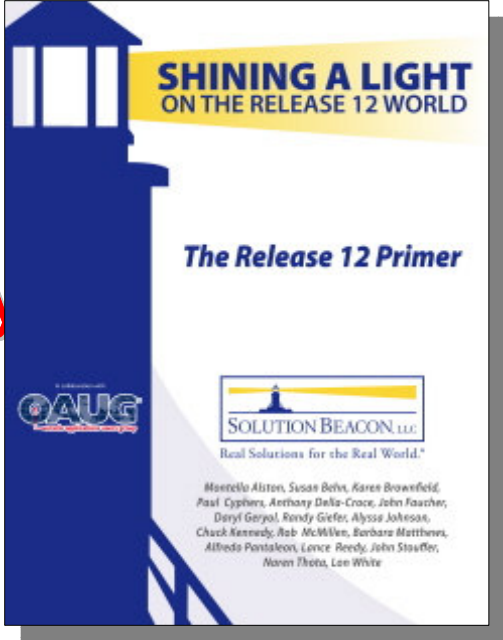
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Questions and Answers

Thank You!

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