

Spreadsheet integration with EBS

Oracle E-Business Suite data management efficiency. A comparison of the most popular methods to data handling efficiency

What are the options?

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15+ Years Experience in Oracle EBS

10+ Years Experience using More4Apps, using DataLoader & Oracle Web ADI

Be Accurate. Be Efficient. Be Productive.

Which solution do you need?

More4Apps Wizards

Improve your business process efficiency and data accuracy using our range of feature rich Excel based solutions which allow **end-users** to quickly upload mass data.

More4Apps Mobile

Manage **Supply Chain** anytime, anywhere. Eliminate paper lists and handheld barcode scanners with real time Oracle transactions via your smartphone.



Application Interface Wizard

Empower your **developers** with the ability to create customized Excel integration solutions to improve your business productivity.

Automation Solutions

Save time by digitally extracting accurate invoice data and eliminate the need for manual data entry.

Specialists in providing easy to use integration solutions for mass data handling.

Data Management Options

Manual Data Entry

DataLoader

Oracle SQL*Loader

Oracle Web ADI

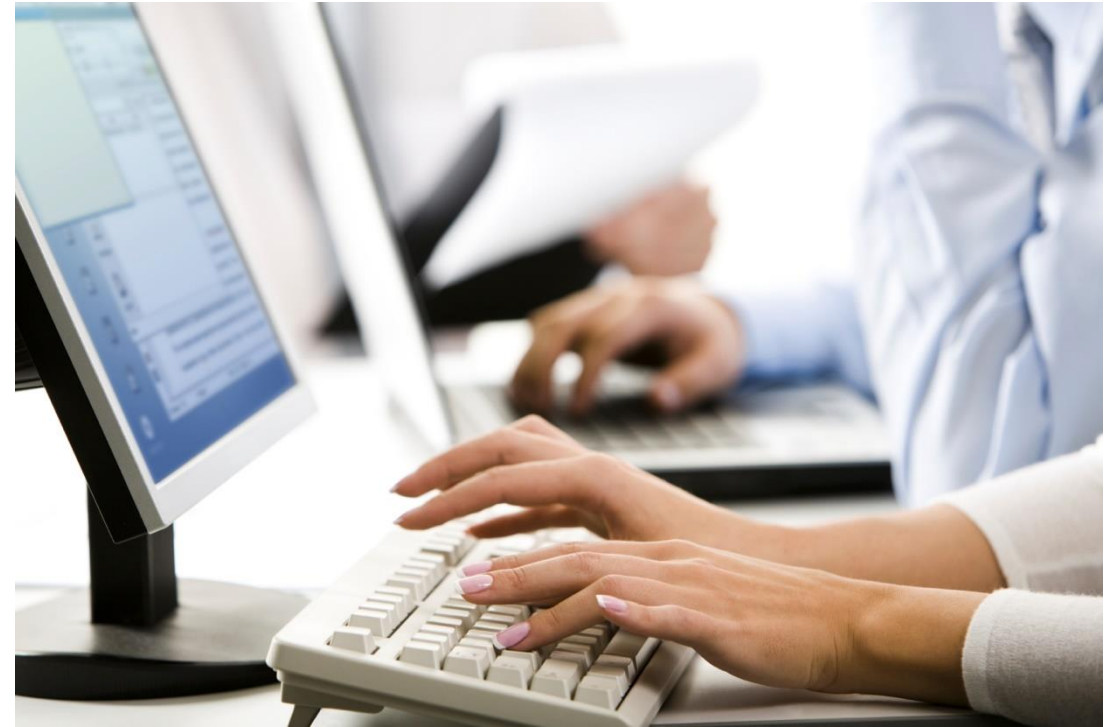
More4Apps
Application
Interface Wizard

More4Apps End
User Wizards

Manual Data Entry

Pros

- ✓ User Controlled
- ✓ No Dependency on IT
- ✓ No Dependency on other software
- ✓ Fully Supported by software vendor



Manual Data Entry

Cons

- ✗ Slow – Labor Intensive

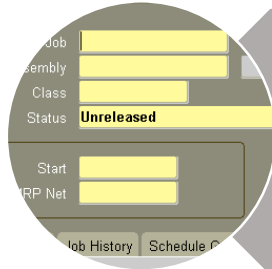
More data means...

- ✗ More Data Quality Issues
- ✗ More resources
- ✗ More time
- ✗ More money

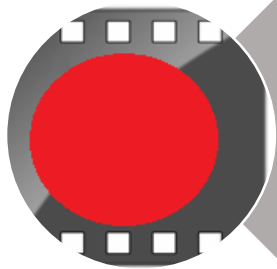


DataLoader

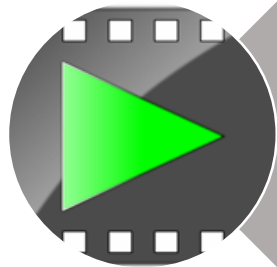
Automated manual data entry.



Uses Macro, Browser Control
and Forms Playback



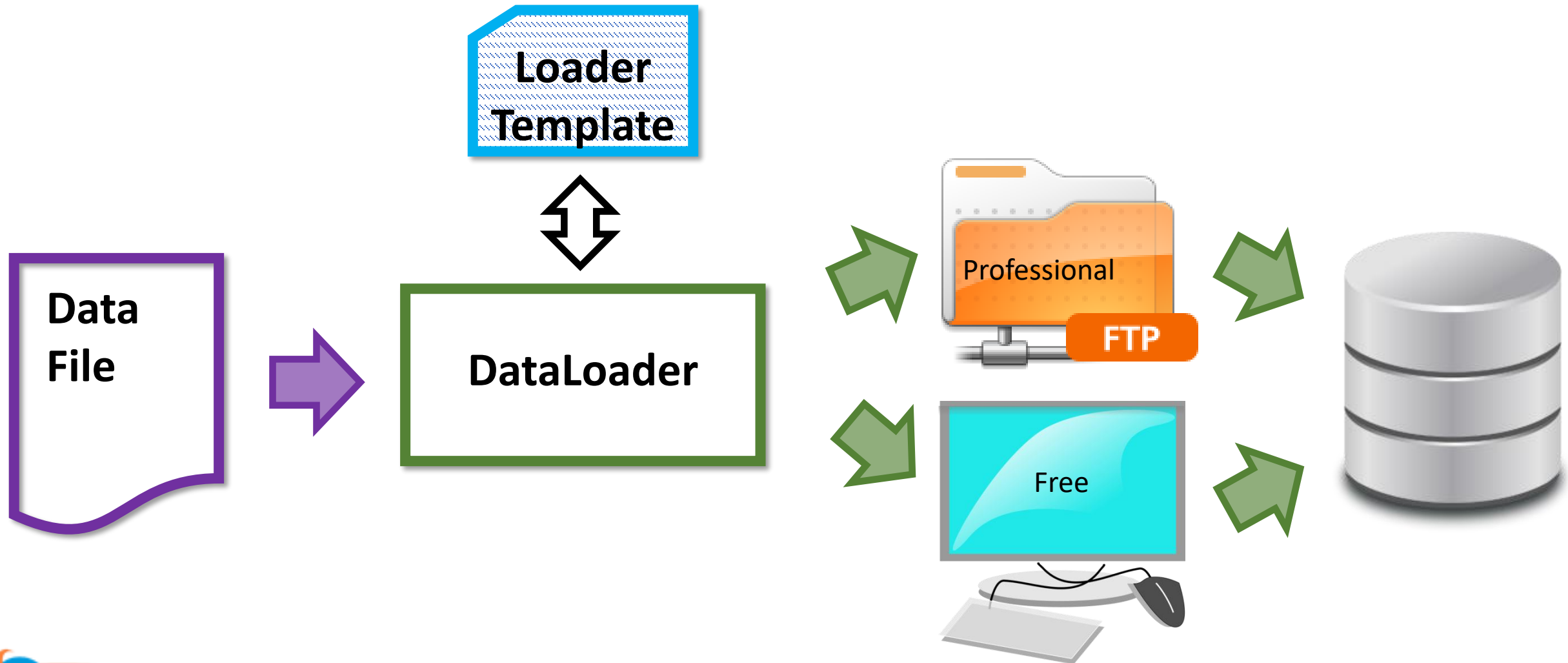
Experienced Users Setup
Playback Steps



End user runs load with
forms validation

DataLoader

Automated manual data entry.



DataLoader

Automated manual data entry.

Data vs Keystrokes

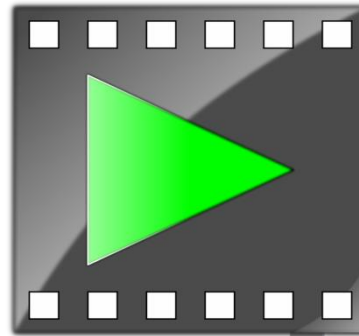
Main Load	Data	TAB	TAB	TAB	Data	TAB	Data	TAB	Data	TAB	Key Strokes	*NB	*NB	*NB
1	ZZZ NATION	TAB	TAB	TAB	National Cost	TAB	NZD	TAB	-4	TAB	{DELETE}	*NB	*NB	*NB
2	*NB	*NB												
3	1	TAB	Customer	TAB	Customer Cla	TAB	310	TAB	=	TAB	STAFF	ENT	*DN	
4	2	TAB	Customer	TAB	Customer Cla	TAB	310	TAB	=	TAB	INTERBRANC	ENT	*SP	
5	ZNI REGION	TAB	TAB	TAB	North Island	TAB	NZD	TAB	-4	TAB	{DELETE}	*NB	*NB	*NB
6	ZZZ NATION	TAB	140	*NB	*NB									
7	1	TAB	Order	TAB	Ship From	TAB	540	TAB	=	TAB	PMB Whanga	ENT	*DN	
8	1	TAB	Customer	TAB	Customer Cla	TAB	310	TAB	=	TAB	STAFF	ENT	*DN	
9	2	TAB	Order	TAB	Ship From	TAB	540	TAB	=	TAB	PMB Whanga	ENT	*DN	
10	2	TAB	Customer	TAB	Customer Cla	TAB	310	TAB	=	TAB	INTERBRANC	ENT	*DN	
11	3	TAB	Order	TAB	Ship From	TAB	540	TAB	=	TAB	PMB Mangaw	ENT	*DN	
12	3	TAB	Customer	TAB	Customer Cla	TAB	310	TAB	=	TAB	STAFF	ENT	*DN	
13	4	TAB	Order	TAB	Ship From	TAB	540	TAB	=	TAB	PMB Mangaw	ENT	*DN	

DataLoader

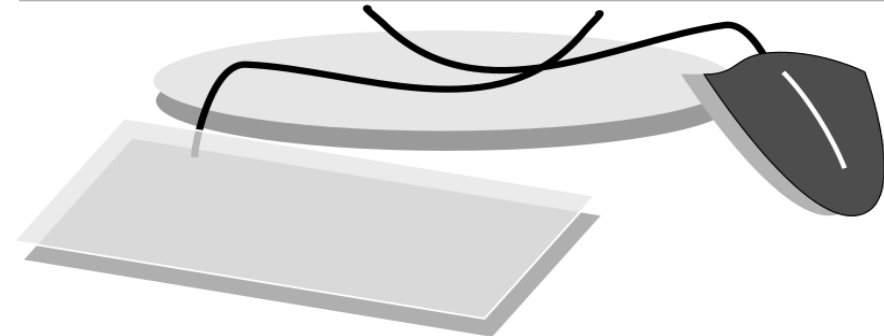
Automated manual data entry.

Pros

- ✓ Super User Friendly
- ✓ Non Technical Solution
- ✓ Doesn't need other tools (e.g. spreadsheet software)
- ✓ Replicates Manual Data Entry
- ✓ Free for basic version



In Load	Data	TAB	TAB	TAB
	ZZZ NATION	TAB	TAB	TAB
	*NB	*NB		
3	1	TAB	Customer	TAB
4	2	TAB	Customer	TAB
5	ZNI REGION	TAB	TAB	TAB
6	ZZZ NATION	TAB	140	*NB



DataLoader

Automated manual data entry.

Cons

- ✗ Ties up your PC
- ✗ Convoluted Data Layout
- ✗ Each load requires configuration – demand on a resource that knows the tool
- ✗ High failure rate especially on large quantity of data & Complex Data Entry
- ✗ Limited Validation. Easy to lose track and hard to fix errors
- ✗ Templates not stored or saved in the server



SQL*Loader & Scripts



Technical Product Used by
DBA's and Developers

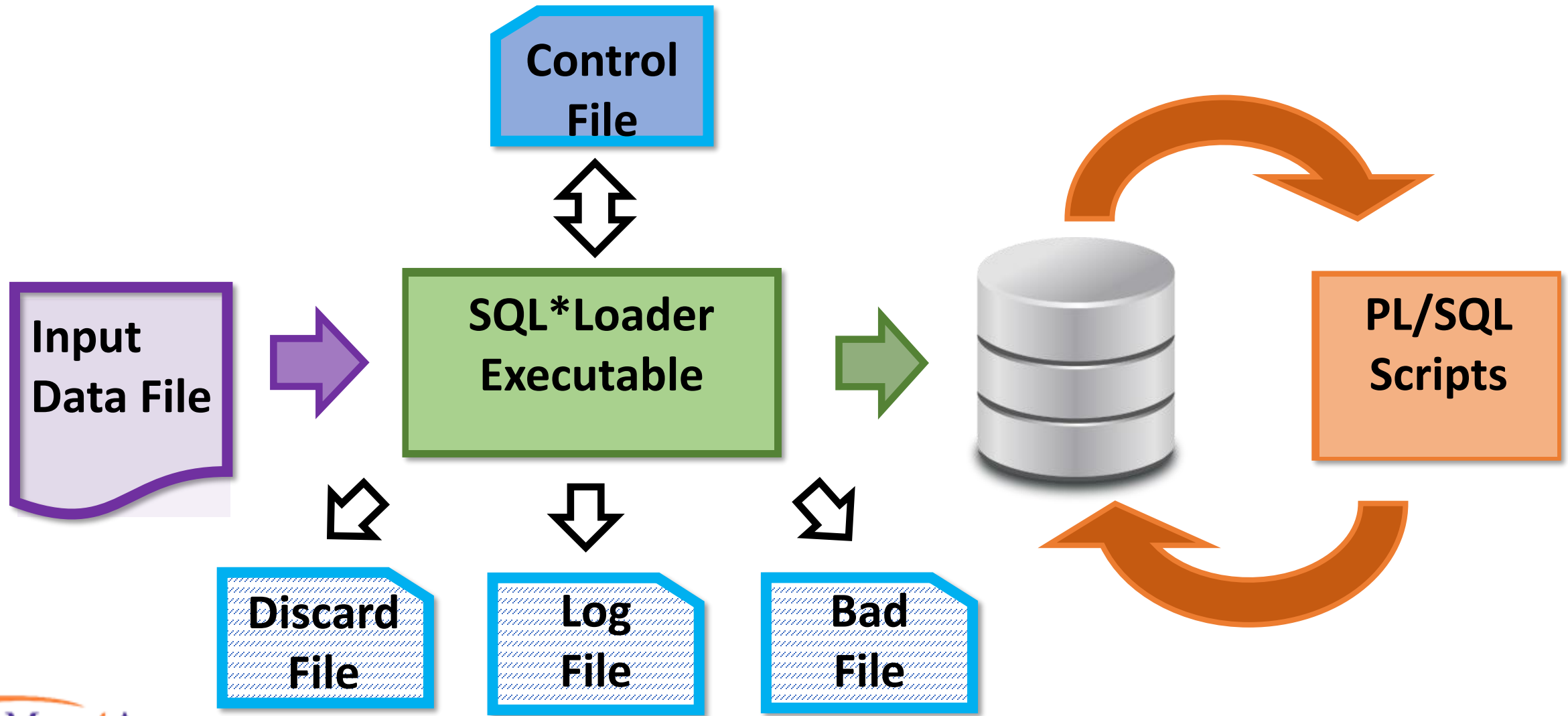


Command Line Based
Solution



Database Level Loading and
Security

SQL*Loader & Scripts



SQL*Loader & Scripts

Control File

```
load data
infile *
replace
into table departments
( dept          position (02:05) char(4),
  deptname      position (08:27) char(20)
)
begindata
COSC   COMPUTER SCIENCE
ENGL   ENGLISH LITERATURE
MATH   MATHEMATICS
POLY   POLITICAL SCIENCE
```

SQL*Loader & Scripts

Input Data File

```
10001,"Scott Tiger", 1000, 40  
10002,"Frank Naude", 500, 20
```

SQL*Loader & Scripts

Pros

- ✓ Handles massive data loading
- ✓ Supports fixed format and variable data files
- ✓ Very fast

```
Number to load: ALL
Number to skip: 0
Errors allowed: 50
Bind array:      64 rows, maximum of 256000 bytes
Continuation:    none specified
Path used:       Conventional

Table SCOTT.JREYMER, loaded from every logical record.
Insert option in effect for this table: APPEND

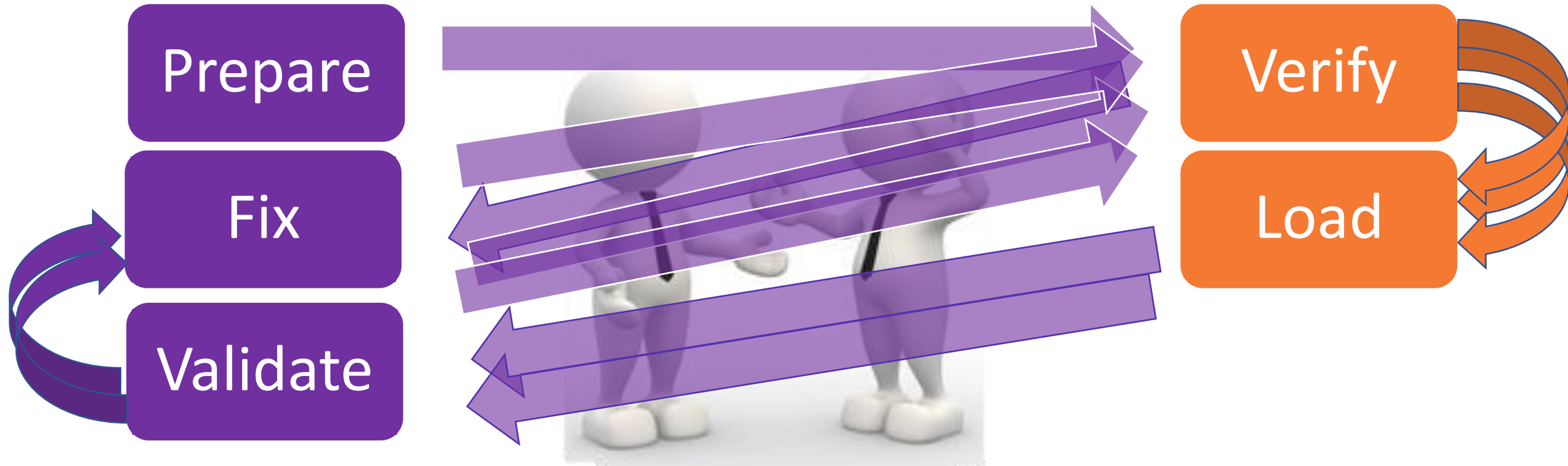
  Column Name          Position  Len  Term Encl Datatype
-----
ID                     FIRST      *    ,      CHARACTER
PASSPORT_ID           NEXT      *    ,      CHARACTER
NAME                  NEXT     30    ,      CHARACTER
CITY                  NEXT     30    ,      CHARACTER
LAST_UPDATE           NEXT     12    ,      DATE DD-MON-YYYY

Table SCOTT.JREYMER:
 33 Rows successfully loaded.
 0 Rows not loaded due to data errors.
 0 Rows not loaded because all WHEN clauses were failed.
 0 Rows not loaded because all fields were null.

Space allocated for bind array:      38016 bytes (64 rows)
Read  buffer bytes: 1048576

Total logical records skipped:      0
Total logical records read:         33
Total logical records rejected:     0
Total logical records discarded:    0
```

SQL*Loader & Scripts



SQL*Loader & Scripts

Where's
My Data
Updates?

*Same
Story*

..... There
all these
Data Issues!



SQL*Loader & Scripts

Cons

- ✗ Internal Development and testing (never end projects)
- ✗ Highly Technical Resources Required to import data
- ✗ High level of maintenance/Change Control
- ✗ Risk of staff changeover –knowledge transfer
- ✗ Definitions not stored on the database
- ✗ Requires functional staff overview of data and Errors
- ✗ Likely affected by Oracle patches & upgrades
- ✗ Doesn't support Parent/Child data loading
- ✗ Direct Database User (APPS).
- ✗ Unaudited, insecure
- ✗ Hard to scope – lots of people involved (user expectations may be different to IT)
- ✗ Hard to deliver to everyone's expectations



Web ADI Create Integrator



Integrate desktop applications with Oracle

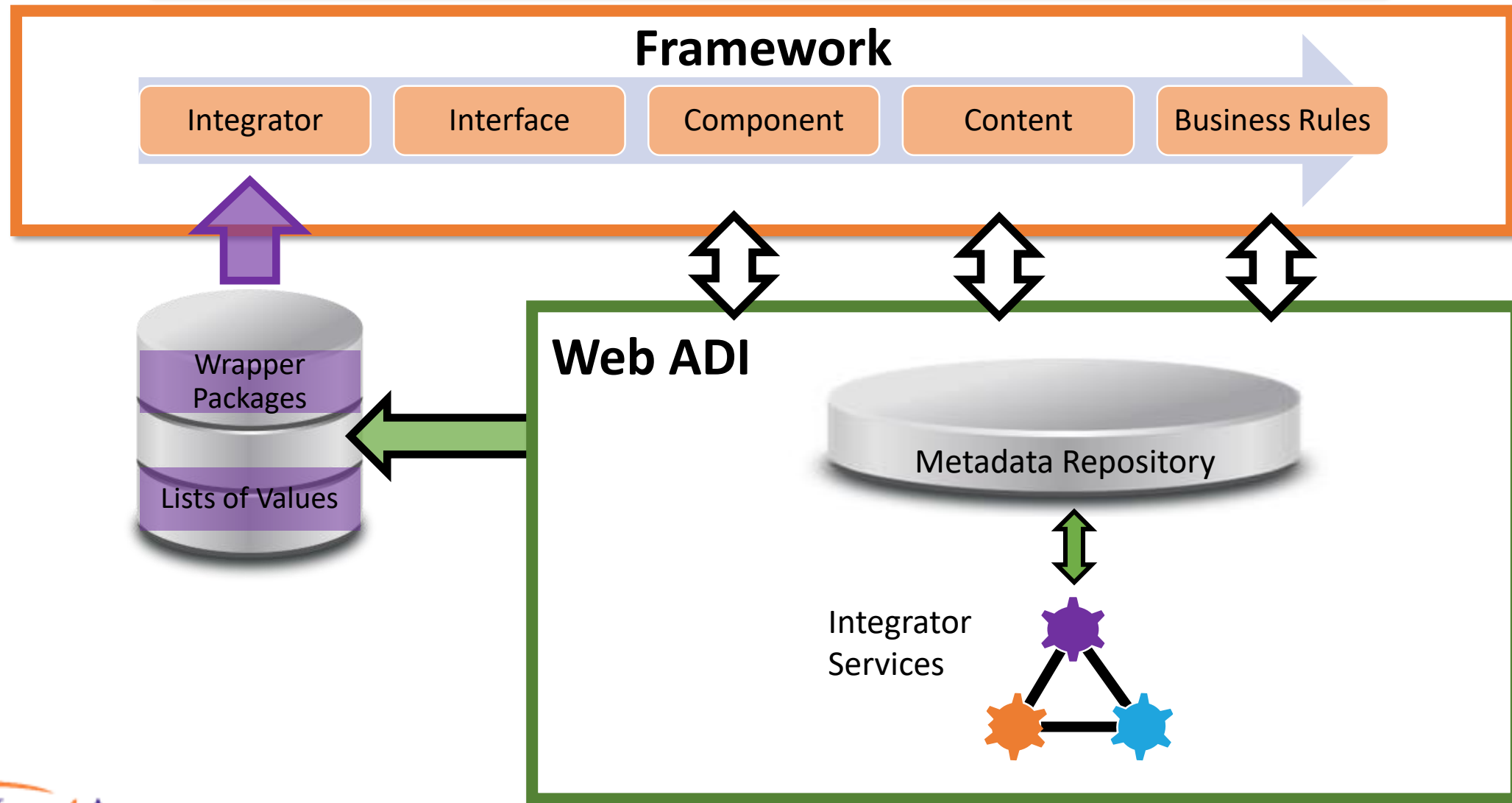


Developers create loaders



Data load executed by end users

Web ADI Create Integrator



Web ADI Create Integrator

ORACLE

santiago.more4apps.com:8000/OA_HTML/OA.jsp?page=/oracle/apps/bne/wdf/interfaces/webui/BneInterfacesPG&_ti=1715333783&retainAM

Search

Logged In As OPERATIONS

Integrator Interfaces Contents Uploader Importer

Integrator : VendorEntry

Cancel Back Step 2 of 5 Next Submit

Interfaces

Create Interface

Select	Interface Name	Type	Entity Name	Delete
<input checked="" type="radio"/>	XXTESTVEND1	Table	PO_VENDOR_ELIGIBILITY	

Interface : XXTESTVEND1

Interface Attributes

Add Attribute View Groups

Attribute Name	Prompt Left	Data Type	Enabled	Displayed	Default Type	Default Value	Attribute Type	Update	Delete
LAST_UPDATE_LOGIN	LAST_UPDATE_LOGIN	Number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Environment Variable	OAUSER.ID	Real		
CREATED_BY	CREATED_BY	Number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Environment Variable	OAUSER.ID	Real		
CREATION_DATE	CREATION_DATE	Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Environment Variable	SYSDATE	Real		
LAST_UPDATED_BY	LAST_UPDATED_BY	Number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Environment Variable	OAUSER.ID	Real		
LAST_UPDATE_DATE	LAST_UPDATE_DATE	Date	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Environment Variable	SYSDATE	Real		
FILE_ID_RESPONSE	FILE_ID_RESPONSE	Number	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Real		
FILE_ID_REQUEST	FILE_ID_REQUEST	Number	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Real		
REASON	REASON	String	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Real		
APPROVED_WITHOUT_CHECK	APPROVED_WITHOUT_	String	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Real		
ERROR	ERROR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Real		

Web ADI Create Integrator

PL/SQL Scripts

```
DECLARE
BEGIN
BNE_INTEGRATOR_UTILS.CREATE_TABLE_LOV
(P_APPLICATION_ID => 20003, -- your application id
P_INTERFACE_CODE => 'XXCCVEND1_XINTG_INTF1', --your interface name
P_INTERFACE_COL_NAME => 'P_VENDOR_NO', -- your column name from
bne_inetrface_cols b column
P_ID_COL => 'SEGMENT1', -- LOOKUP CODE UPLOADED --
P_MEAN_COL => 'SEGMENT1', -- Shown in sheet --
P_DESC_COL => 'VENDOR_NAME',
P_TABLE => 'PO_VENDORS',
P_ADDL_W_C => '1=1',
P_WINDOW_CAPTION => 'Vendors',
P_WINDOW_WIDTH => 450,
P_WINDOW_HEIGHT => 300,
P_TABLE_BLOCK_SIZE => 10,
P_TABLE_SORT_ORDER => 'SEGMENT1', -- sortable by meaning, not description-
-
P_USER_ID => 1562,
P_POPLIST_FLAG => 'N'
);
END;
```

Web ADI Create Integrator

ORACLE

36 | Logged In As OPERATIONS

Integrator Interfaces

Integrator : GHG: Upload KPI Targets Data

Interfaces

Create Interface

Select Interface Name

GHG_KPI_TAR_INT

Interface : GHG_KPI_TAR_INT

API Returns FND Message Code

Interface Attributes

Add Attribute View Groups

Attribute Name	Prompt Left	Data Type							
X_ORG_ID	ORG_ID	Number	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Real	
X_ORG_END_DATE	ORG_END_DATE	Date	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Real	
X_ORG_START_DATE	ORG_START_DATE	Date	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Real	
X_GHG_ORGANIZATION_NAME	GHG_ORGANIZATION_N	String	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Real	
X_END_DATE	END_DATE	Date	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Real	
X START DATE	START DATE	Date	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Real	

Interface Attribute Definition

Attribute Name A_ORG_ID

Data Type Number Length Attribute Type Real

☒ Required (To be included in all layouts) ☒ Enabled for Mapping

☐ Available for summary ☒ Not Null

☐ Read Only

Validation

Validation Type Table

Group Name

Id Column ORGANIZATION_ID

Meaning Column NAME

Desc Column NAME

Validation Entity GHG_PARAM_DEFINED_OU_V

Where Clause

Component Name

Low Type Pop List

Display Texts








Next Submit

Delete

update Delete

Web ADI Create Integrator

ORACLE Desktop Integration

Logged In As OPERATIONS























Create Layout

Determine the fields to be included in the Layout, their placement and default values.

Optional Fields

Select the optional fields to include in your document and their placement.

Select All | Select None

Select	Field Name	Placement	Default Value	Default Type
<input type="checkbox"/>	Account Assignment	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Change Sign	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Display Row	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Format Mask	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Level of Detail	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Factor	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Activity	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Summary	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Sign	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Amount Type	Line 	<input type="text"/>	None 
<input type="checkbox"/>	Currency	Line 	<input type="text"/>	None 

Cancel

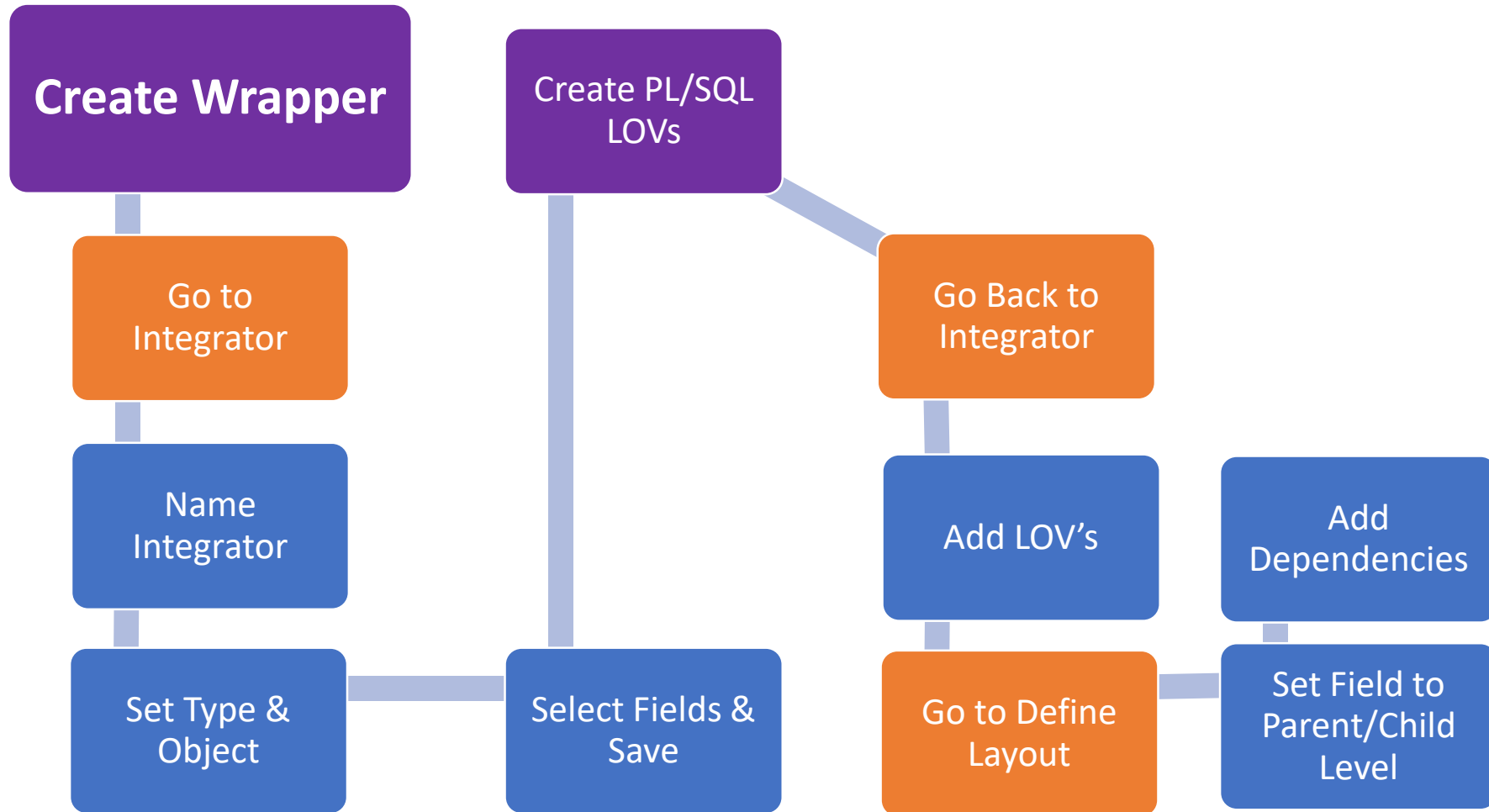
Back

Next

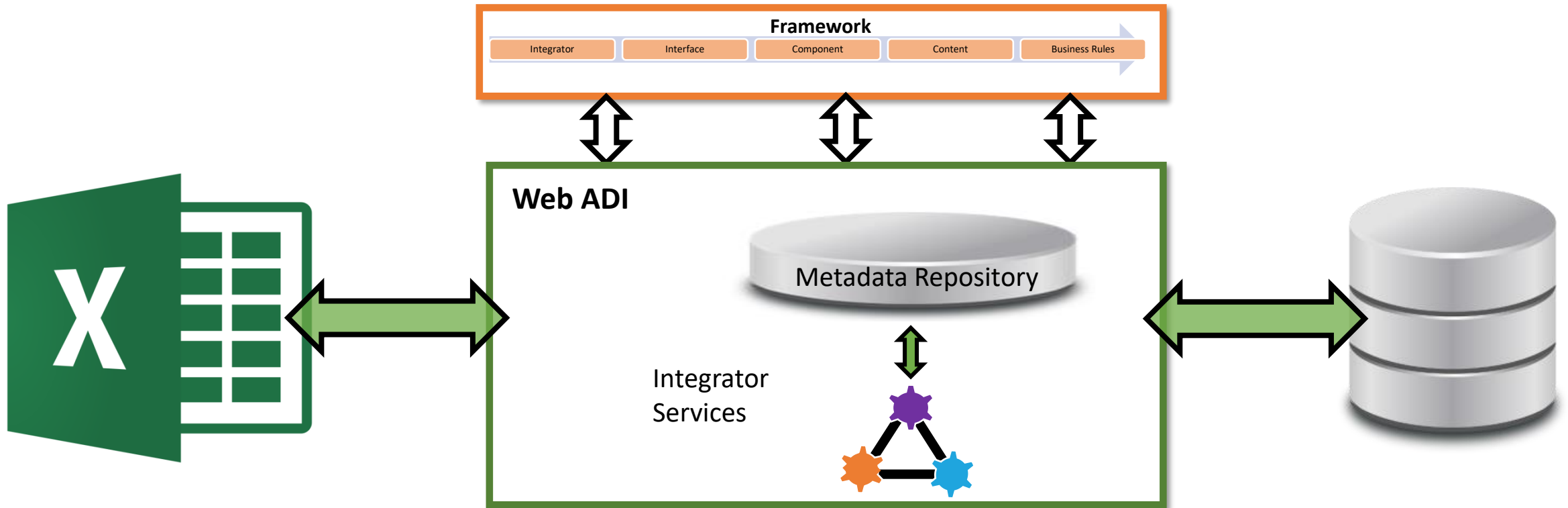
Apply

Web ADI

Create Integrator



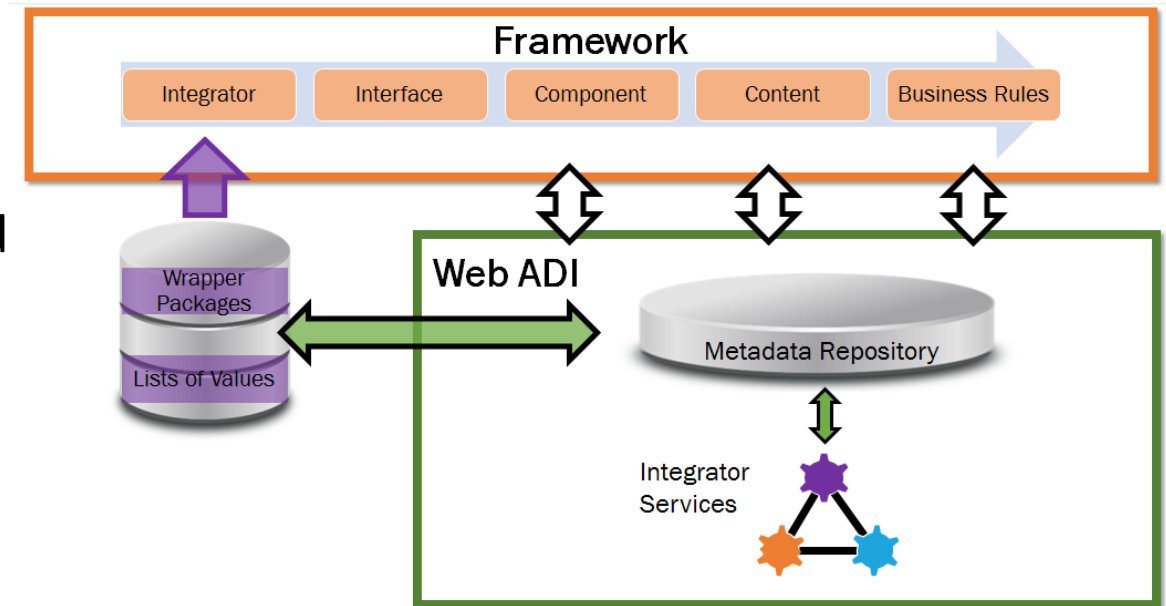
Web ADI Run Integrator



Web ADI

Pros

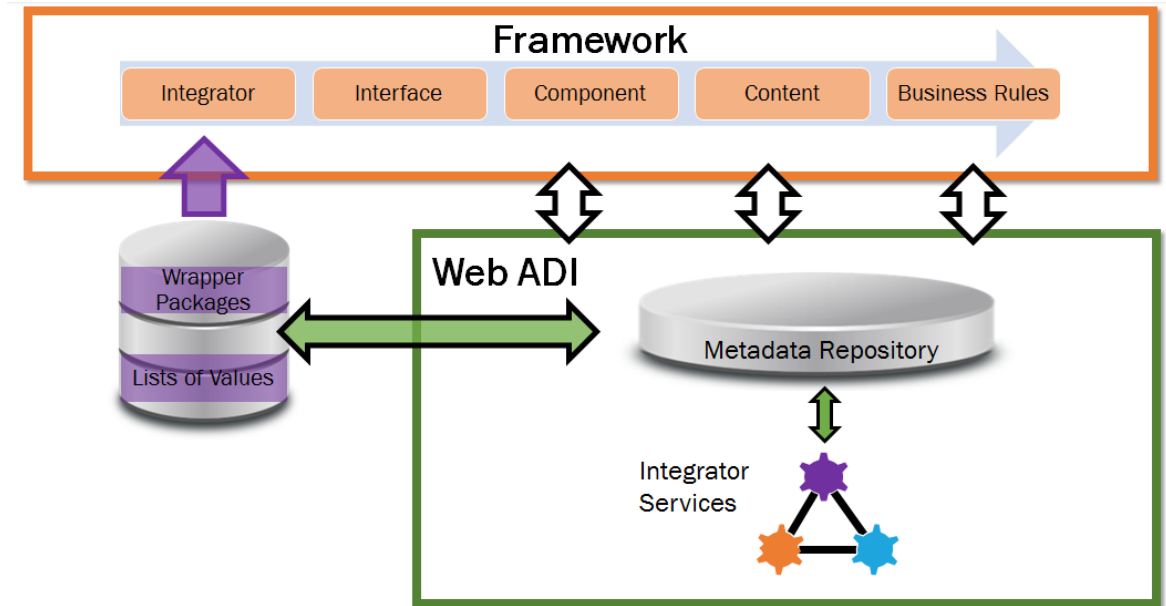
- ✓ Included in Oracle licence
- ✓ Oracle Development Platform Supported
- ✓ Some prebuilt, supported integrators
- ✓ Specific to your needs
- ✓ Loaders kept in Repository



Web ADI

Cons

- ✗ Convoluted Development & Design Process
- ✗ Requires Maintenance/Patching
- ✗ Requires Technical Expertise
- ✗ Affected by Patches & Upgrades
- ✗ Complex knowledge transfer
- ✗ Wrapper packages normally required
- ✗ LOVs difficult to build
- ✗ Hard to deliver to everyone's expectations
- ✗ Internal Development & testing
- ✗ Difficult to debug



- ✗ Very Basic User Interface
- ✗ Each data element is a separate spreadsheet
- ✗ Limited download functionality

More4Apps Application Interface Wizard



Integrate Excel with Oracle

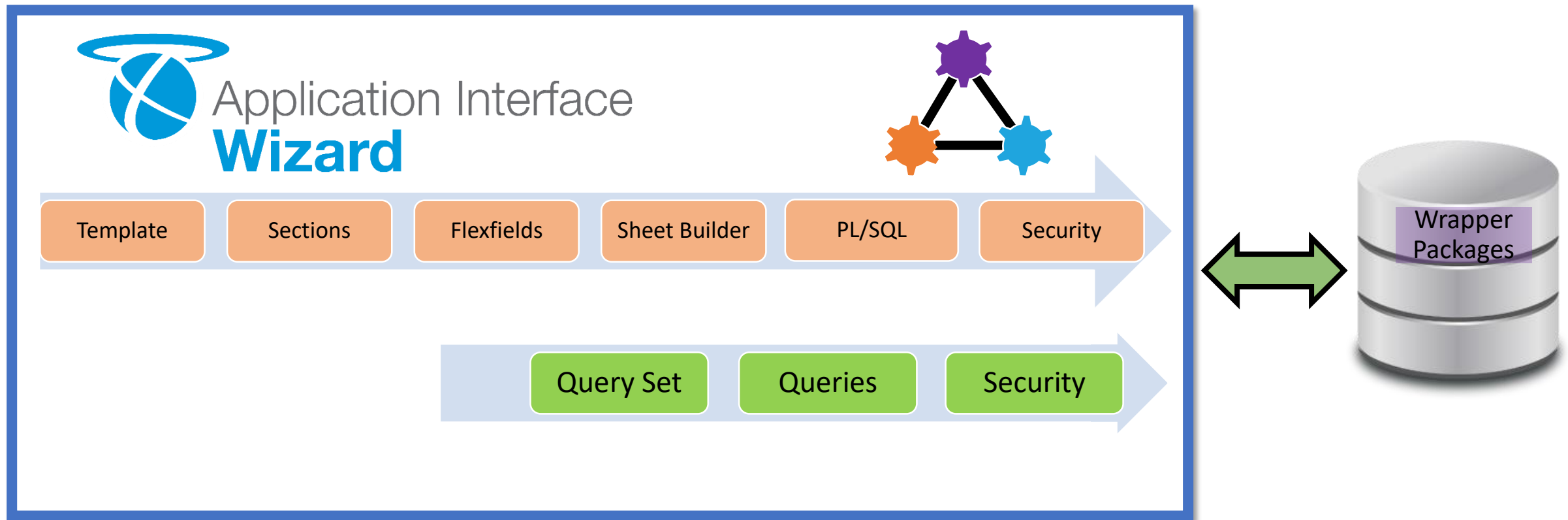


Developers create loaders



Data load executed by end users

More4Apps Application Interface Wizard



Application Interface Wizard – Define Template

[T- VIS8 12.1.3] Manage Templates

Action: Mode: Version:

Template Name: Procedure/Table:

Template | Selected Sections | Descriptive Flexfield | Responsibilities | Database PL/SQL | XML Loader | More4Apps Loader Info

Template

Name	Order By	Display	Mandatory	Custom View Label	Comment	Read Only	Section Name	Record	Data Type	Default Type	Default Value	Default Cached	LOV Type
LOAD_TAG Status	10	Yes	Yes	API Call Status		No	LOAD_TAG			None		Per Session	None
LOAD_TAG Messages	20	Yes	Yes	API Call Message		No	LOAD_TAG			None		Per Session	None
P_ORGANIZATION_CODE	30	Yes	No	Organization		No	LOAD_TAG		Text	None		Per Session	Shortlist
P_PHYSICAL_INVENTORY_NAME	40	Yes	No	Physical Count Name		No	LOAD_TAG		Text	None		Per Session	Shortlist
P_TAG_NUMBER	50	Yes	No	Tag Number		No	LOAD_TAG		Positive Values	None		None	Longlist
P_NEW_TAG	60	Yes	No	New Tag		No	LOAD_TAG		Text	None		Per Session	Shortlist
P_ITEM_NUMBER	70	Yes	No	Item		No	LOAD_TAG		Text	Parent	P_TAG_NUMBE	None	Longlist
P_ITEM_REVISION	80	Yes	No	Revision		No	LOAD_TAG		Text	Parent	P_TAG_NUMBE	None	Shortlist
P_TAG_QUANTITY	90	Yes	No	Quantity		No	LOAD_TAG		Decimal	None		None	None
P_TAG_UOM	100	Yes	No	Unit of Measure		No	LOAD_TAG		Text	Parent	P_ITEM_NUMB	Per Session	Shortlist
P_SUBINVENTORY	110	Yes	No	Subinventory		No	LOAD_TAG		Text	Parent	P_TAG_NUMBE	Per Session	Shortlist
P_LOCATOR	120	Yes	No	Locator		No	LOAD_TAG		Text	None		None	None
P_LOT_NUMBER	130	Yes	No	Lot Number		No	LOAD_TAG		Text	Parent	P_TAG_NUMBE	None	None
P_LOT_EXPIRATION_DATE	140	Yes	No	Lot Exp Date		No	LOAD_TAG		Date	None		None	None
P_SERIAL_NUM	150	Yes	No	Serial Number		No	LOAD_TAG		Text	Parent	P_TAG_NUMBE	None	None
P_COUNTED_BY_EMPLOYEE	160	Yes	No	Counted By		No	LOAD_TAG		Text	SQL statement	select full_nam	Per Session	Shortlist
P_ROW	170	Yes	No	Row		No	LOAD_TAG		Decimal	None		Per Session	None
X_RETURN_STATUS	180	Yes	No	Return Status		Yes	LOAD_TAG		Text	None		Per Session	None

Application Interface Wizard – Runtime PL/SQL

Manage Templates

Action

Modify

Mode

Insert

Template Name

WIP Discrete Job

Copy

Procedure/Table

WIP.WIP_JOB_SCHEDULE_INTERFACE

Template

Selected Sections

Descriptive Flexfield

Responsibilities

Database PL/SQL

XML Loader

More4Apps Loader Info

Database PL/SQL

/*
Template: WIP Discrete Job
Table: WIP.WIP_JOB_SCHEDULE_INTERFACE

Example Table Call below for WIP Discrete Job.
PL/SQL added within the commented sections should be added to the
Database PL/SQL tab of the Manage Templates form.

*/
DECLARE
p_rowID VARCHAR2(200);
p_error VARCHAR2(2000);
p_clob CLOB; /*XML Data*/
/*
The parameter(s) within this block can be declared from the manage templates form.
-----*/
v_return_status varchar2(100);
/*
-----*/
BEGIN
DELETE FROM AHL_MR_INSTANCES_TEMP;
/*Test Data is used below as the XML loop will not run without it*/
/*The DML statement has also been commented out to prevent this data from being uploaded*/
-----*/
*/

Edit PL/SQL

Copy PL/SQL to Clipboard

Synchronize

Validate

Close

Apply

[Cobain Demo 12.1.3] Database PL/SQL

Setup

Table Row PL/SQL

Database PL/SQL

Validate Message(s)


Template PL/SQL Declarations (Read Only)

Database PL/SQL tab of the Manage Templates form.

/*
DECLARE
p_rowID VARCHAR2(200);
p_error VARCHAR2(2000);
p_clob CLOB; /*XML Data*/
/*
-----*/
The parameter(s) within this block can be declared from the manage te
-----*/
|

User PL/SQL Declarations

v_return_status varchar2(100);

 **More4Apps**
Automation and Integration Solutions

www.more4apps.com

Application Interface Wizard – Debugging

Copy PL/SQL to Clipboard

Save Data

Ignore DI

Create DI

```
when p_null is not null - will return to the sheet'
s.dbms_output.put_line('Developer error - will ret

END IF;

/*-----
This block can be used to run post-row PL/SQL.
-----

wip_massload_pub.massLoadJobs(
p_groupID => xt.p_GROUP_ID ,
p_validationLevel => 2,
p_commitFlag => 1,
x_returnStatus => v_return_status,
x_errorMsg => p_error
);

/*-----
EXCEPTION WHEN OTHERS THEN
    p_error := p_error || SUBSTR(SQLERRM, 1, 200);
END;

NO LOOP;
```

Application Interface Wizard - Downloader

[Tremor VIS8 12.1.3] Manage Query Sets

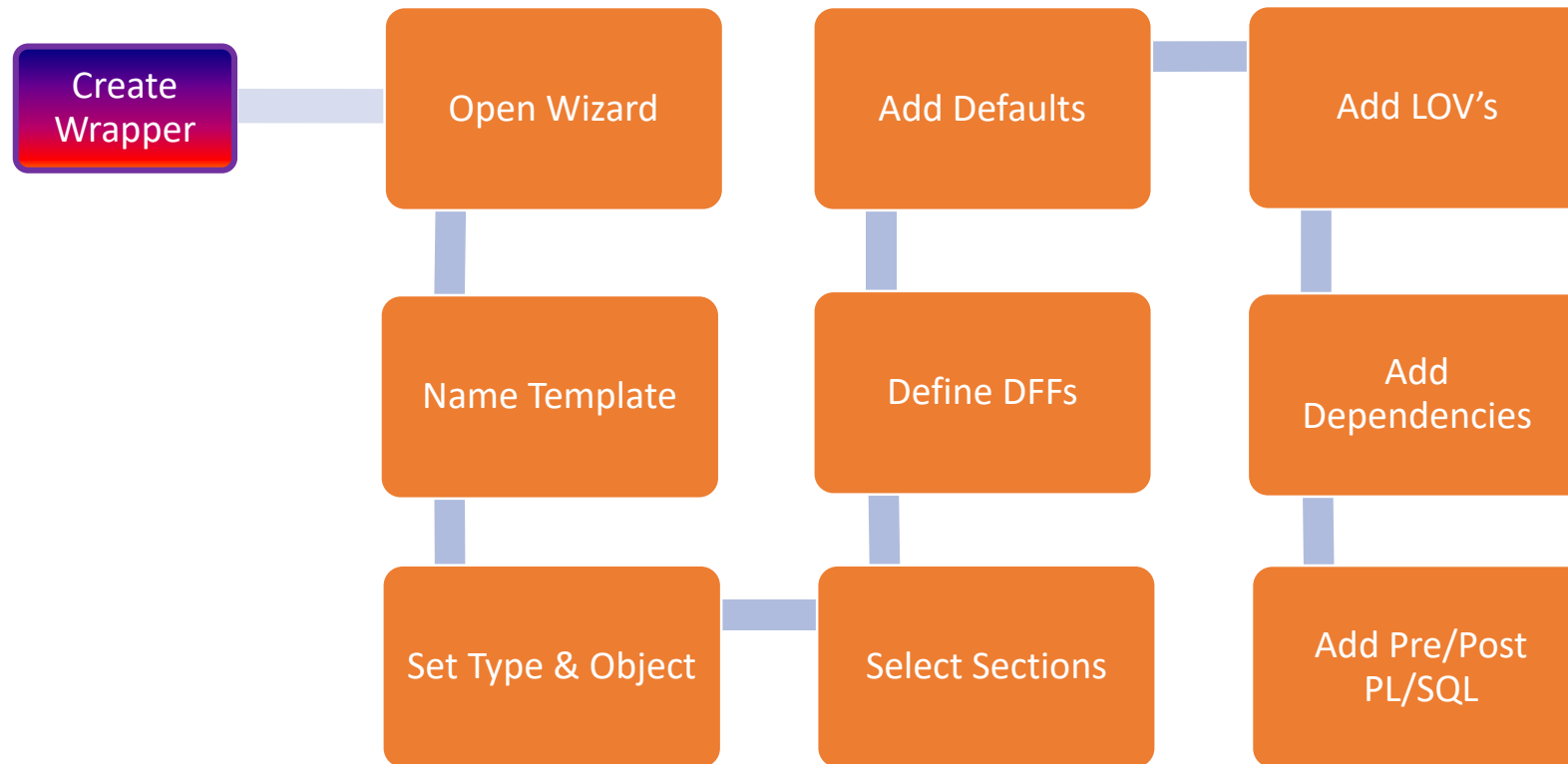
Action:

Query Set Name:

Queries | Responsibilities

Query Name	Parent Query	Query SQL
Simple Req Headers	Parent	SELECT h.requisition_header_id Header_ID, h.segment1 Req_Number
Simple Req Lines	Simple Req Headers	SELECT l.requisition_header_id HeaderID, l.requisition_line_id LineID
Simple Req Distributions	Simple Req Lines	SELECT d.requisition_line_id LineID, d.distribution_id Dist_Id, d.distribu

Application Interface Wizard



More4Apps Application Interface Wizard

Pros

- ✓ Can build many loaders for End Users
- ✓ Development tool where the platform is supported by More4Apps
- ✓ Standardization with a “template library”
- ✓ Easier transfer of knowledge because development is all in Excel
- ✓ Embedded PL/SQL at run time for complex validation
- ✓ Embedded PL/SQL to reduce custom database objects
- ✓ Supports DBMS_OUTPUT
- ✓ Supports copy code to Toad/SQL Developer to help understand API
- ✓ Supports Attachments
- ✓ Handles multilevel PL/SQL packages
- ✓ Easy implementation of Flexfields
- ✓ User form with all data elements per section
- ✓ Flexible sheet design, users can move columns
- ✓ Embedded downloader to make data updates easy



More4Apps Application Interface Wizard

Cons

- ✗ Requires technical expertise
- ✗ Effected by patches/changes from Oracle
- ✗ Hard to deliver to everyone's expectations
- ✗ Internal Development & testing



More4Apps End User Wizards



Integrate Excel with Oracle



Prebuild Loaders



Designed for End User Data
loading

More4Apps End User Wizards

Procure to Pay

AP Invoice
(with automation)
Suppliers
Purchase Orders
Requisitions
PO Receipts
Price Lists
Pricing Modifiers

Order to Cash

Customers
AR Invoices
AR Receipts
Sales Orders
Sales Quotes
Price Lists
Pricing Modifiers

Projects

Projects
Budgets
Transactions
Events
Agreements &
Funding
Labor Cost
Rates

Manufacturing & Inventory

Items
Item Extension
Item Costs
Bills of Material
Routings
Material
Transactions

Finance

Assets
GL Journal

Human Resources

Employees
Special Info
Elements

More4Apps End User Wizards

Designed for the task at hand

AP Invoice Wizard **AP Invoice Wizard - Setup**

Upload Validation Messages Extras **PO Matching** Download Submit View Concurrent Requests Refresh

INVOICE HEADER

Operating Unit	Invoice Type	P.O. Number
		3928
		3929
		3930

Match Distributions Using Form
Download Details For All PO's
Download Details for Selected PO(s)
Download Details for Selected PO(s)
Download PO Details based on selected PO Numbers entered in the sheet.
AP Invoice Wizard 9.6.21_po_matching.xlsm
Tell me more

More4Apps End User Wizards



**Need to understand
the API's?**



More4Apps End User Wizards

Pros

- ✓ Designed for the End user
- ✓ Work out of the box
- ✓ Validates before data before uploading
- ✓ Tested and supported by More4Apps
- ✓ Consistently enhanced and improved
- ✓ Uses Oracle Public APIs and/or open Interfaces**
- ✓ Same tool works in Oracle EBS 11i and R12*
- ✓ Controlled and predictable cost (can anticipate annual support cost and the need for additional users)
- ✓ Supported by Oracle**

Cons

- ✗ Not built to be a complex reporting tool
- ✗ Designed for specific function



More4Apps End User Wizards

Let's take a look at a few

Spreadsheet integration with EBS

Oracle E-Business Suite data management efficiency. A comparison of the most popular methods to data handling efficiency

What are the options?

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