

# Case Study Update: A Roadmap To Fusion Applications

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## Introduction

The Jet Propulsion Laboratory (“JPL”) is a federally-funded research and development center located in Pasadena, California. The workforce is composed of roughly 5000 employees and another 2000 contractors. JPL functions as a National Aeronautics and Space Administration (“NASA”) center, managed by the California Institute of Technology, specializing in robotic space exploration missions. The Mars Rovers and the Cassini mission to Saturn are two better-known examples of JPL’s missions. JPL’s institutional business systems are based on applications from version 11.5.10.2 of the Oracle E-Business Suite, specifically Financials, Project Accounting, Human Resource Management Systems, Payroll, and Discrete Manufacturing.

This paper summarizes the latest version of JPL’s 5-year Roadmap for upgrading from 11i to Release 12, then possibly on to Fusion Applications.

## Background

We’re actually moving to the next iteration of ERP at JPL. The emphasis will be on integration and flexibility, applying the lessons learned so far (we originally implemented 10.7SC in 1998), and keeping in step with Oracle.

In choosing a direction for packaged applications, whether it’s E-Business Suite, PeopleSoft, or even a non-Oracle product, it’s important to recognize that all available choices include some flavor of Oracle Fusion Middleware or something similar to it. In fact, many Oracle applications customers running the latest versions of their respective applications (be it PeopleSoft, Siebel, E-Business, etc.) are already running on some version of Oracle Fusion Middleware. In fact, to understand Oracle Fusion Middleware is to understand Oracle Fusion Applications

## Assumptions

The assumptions for JPL are:

1. We’ll continue to utilize some flavor of Oracle’s applications.
2. Oracle’s Applications Unlimited program will continue to grow and develop the respective product lines through at least 2010.
3. Oracle’s Lifetime Support program will be viable through at least 2012.

## Why Are We Considering Fusion Applications At All?

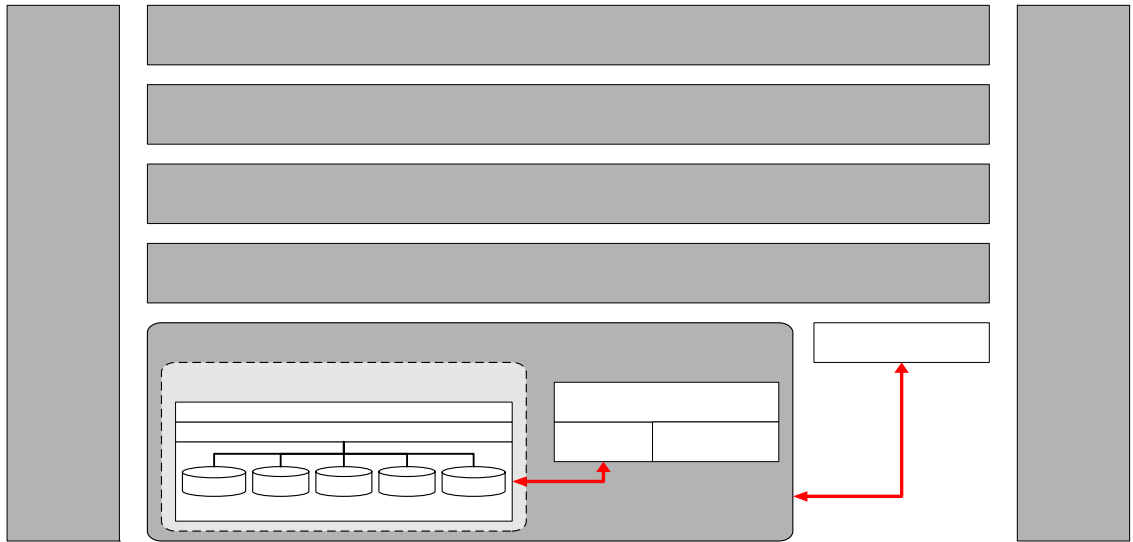
For JPL, Fusion Applications offers a value proposition based on three important points:

1. An emphasis on standards-based integration – we have many different data storage “stovepipes” at JPL utilizing many different technology stacks: Microsoft, MySQL + PHP, .NET and Oracle all have a significant presence. The ability to integrate across these technology stacks will make or break our ability to deliver broad and accurate business intelligence into the hands of our decision makers.
2. A focus on business processes – JPL’s business systems are organized around business processes that cut across organizations and traditional applications (we think in terms of a procure-to-pay process rather than Payables and Purchasing applications). Fusion Applications aligns more closely with our business model.

3. A richer user interface – our users are constantly asking for changes and extensions to user interfaces as a means of doing their jobs in a more efficient manner. Fusion Applications, through the application of Enterprise 2.0 technologies, will support a richer and more flexible UI for our users.

## The End State

After considering our dependence on Oracle, at least for the next several years, and JPL's business needs, we developed the following conceptual depiction of our desired end state:



**Note: if this is too tough to read, check the PowerPoint slides for a larger picture!**

## The Approach

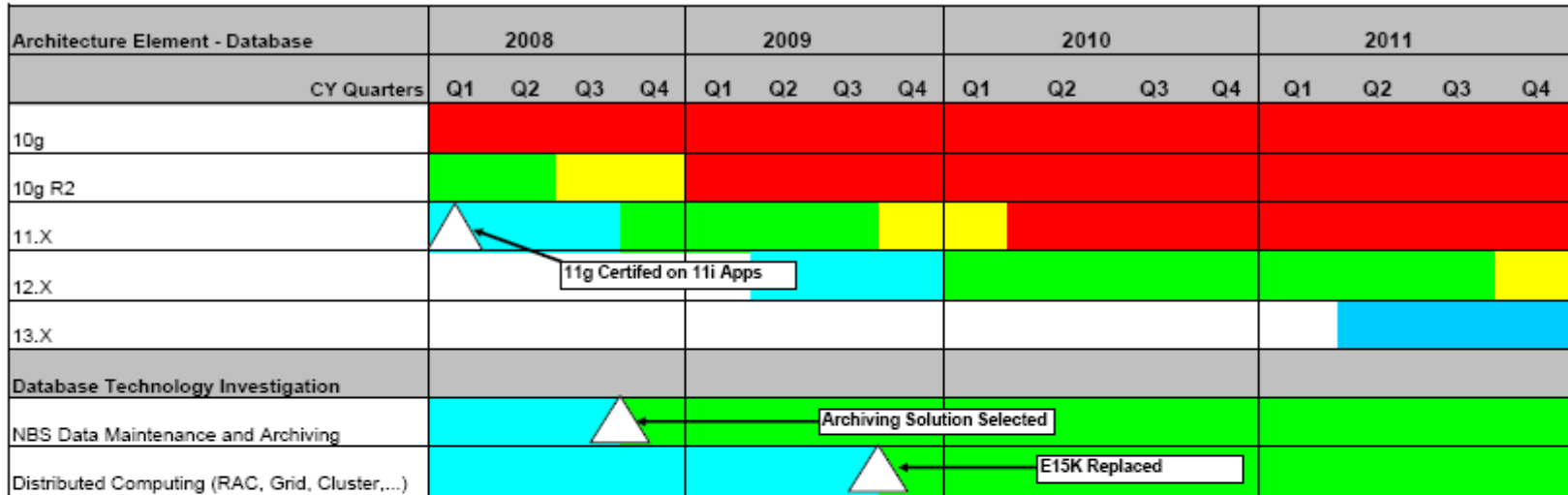
Our plan calls for an upgrade to E-Business Release 12, which we'll then use as a baseline for incremental upgrades to Fusion Applications. In the meantime, we've already started with using Fusion Middleware components when opportunities arise.

## The Roadmap

In considering both Oracle's Fusion Architecture and JPL's conceptual architecture as depicted above, the one point that should stand out is the complexity. In fact, the complexity is such that we found it necessary to build a roadmap for each layer of the architecture. The following pages display the latest version of the roadmap for each layer of the architecture.

# The Database Layer Roadmap

## NBS 2.0 5-Year Roadmap



# The Applications Server Layer Roadmap

## NBS 2.0 5-Year Roadmap

Architecture Element - Application Server	2008				2009				2010				2011				2012			
CY Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10.1.2.0.2	Out of Service				Out of Service				Out of Service				Out of Service				Out of Service			
10.1.3.x (Fusion Middleware)	Deploy		Transition Out	Out of Service				Out of Service				Out of Service				Out of Service				
11.X	Investigate				Deploy				Transition Out		Out of Service		Out of Service				Out of Service			
12.X	Investigate				Investigate		Deploy		Deploy		Deploy		Transition Out		Out of Service		Out of Service			
13.X	Investigate				Investigate				Investigate		Investigate		Deploy		Deploy		Deploy			
Apps Server Technology Investigation	Investigate				Investigate				Investigate				Investigate				Investigate			
SOA/Web Services/BPEL Training/Discussions	Investigate				Investigate				Investigate				Investigate				Investigate			
Data Exchange Architecture Project	Deploy				Deploy				Deploy				Deploy				Deploy			
Services-Based Integration (Based on DEA Infrastructure & Pilots)	Investigate				Investigate				Investigate				Investigate				Investigate			
BI Publisher	Investigate		Deploy	Deploy				Deploy				Deploy				Deploy				

Legend	
Investigate	
Deploy	
Transition Out	
Out of Service	

# The Applications Layer Roadmap

## NBS 2.0 5-Year Roadmap

Architecture Element - Applications	2008				2009				2010				2011				2012			
CY Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
11.5.10.x	Deploy				Deploy				Transition Out				Out of Service				Out of Service			
12.X (Baseline For Migration to Fusion Apps)	Investigate				Investigate				Investigate				Investigate				Investigate			
Fusion Applications	Investigate				Investigate				Investigate				Investigate				Investigate			
- Financials	Investigate				Investigate				Investigate				Investigate				Investigate			
- Projects	Investigate				Investigate				Investigate				Investigate				Investigate			
- HR	Investigate				Investigate				Investigate				Investigate				Investigate			
- Payroll	Investigate				Investigate				Investigate				Investigate				Investigate			
- Manufacturing	Investigate				Investigate				Investigate				Investigate				Investigate			
Applications Technology Investigation	Investigate				Investigate				Investigate				Investigate				Investigate			
Catalog/Reduce/Plan Migration - Customizations	Investigate				Investigate				Investigate				Investigate				Investigate			
R12 Functionality Mapping and Implementation	Investigate				Investigate				Investigate				Investigate				Investigate			
Fusion Applications Mapping and Implementation	Investigate				Investigate				Investigate				Investigate				Investigate			

Premier Support Ends for 11.5.10.x

Live on R12 Apps

Fusion Go/No-Go Decision

Live on Fusion Apps

Legend	
Investigate	Light Blue
Deploy	Green
Transition Out	Yellow
Out of Service	Red

## The Data Repository Layer

### NBS 2.0 5-Year Roadmap





Architecture Element - Data Repository	2008				2009				2010				2011				2012							
	CY Quarters	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
10g																								
10g R2																								
11.X																								
12.X																								
13.X																								
<b>Database Repository Technology Investigation</b>																								
NBS Data Warehouse v Oracle Master Data Mgmt																								
Oracle Common Object Model																								
Modeling for NBS-External Reporting & Intelligence																								

Legend	
Investigate	
Deploy	
Transition Out	
Out of Service	

# The Process Integration Layer Roadmap

NBS 2.0 5-Year Roadmap





Architecture Element - Process & Integration	2008				2009				2010				2011				2012				
	CY Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10.1.2.0.2																					
10.1.3.x (Fusion Middleware)																					
11.X																					
12.X																					
13.X																					
Process & Integration Technology Investigation																					
SOA/Web Services/BPEL Training/Discussions <i>(joint with Apps Server)</i>																					
Data Exchange Architecture Project <i>(joint with Apps Server)</i>																					
Services-Based Integration (Based on DEA Infrastructure & Pilots) <i>(joint with Apps Server)</i>																					
BPEL Process Orchestration																					
Application Integration Architecture (including Process Integration Packs)																					
Web Center (as UI for Composite Apps) <i>(joint with Unified Access)</i>																					
BPA Development																					

Legend	
Investigate	
Deploy	
Transition Out	
Out of Service	

# The Business Intelligence Reporting Layer

## NBS 2.0 5-Year Roadmap

Architecture Element - Business Intelligence & Reporting	2008				2009				2010				2011				2012				
	CY Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10.1.2.0.2																					
10.1.3.x (Fusion Middleware)																					
11.X																					
12.X																					
13.X																					
<b>Business Intelligence &amp; Reporting Technology Investigation</b>																					
Institution-wide Business Intelligence Solution																					
BI Publisher (joint with Apps Server)																					
Reporting Tools & Services Position																					
Business Intelligence Position & Plan																					


Legend	
Investigate	
Deploy	
Transition Out	
Out of Service	



## The Unified Access Layer

### NBS 2.0 5-Year Roadmap

Architecture Element - Unified Access	2008				2009				2010				2011				2012							
	CY Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
10.1.2.0.2																								
10.1.3.x (Fusion Middleware)																								
11.X																								
12.X																								
13.X																								
<b>Unified Access Technology Investigation</b>																								
Transparent Data Encryption																								
Single Sign-On																								
OID																								
Web Center (joint with Process & Integration)																								

Legend	
Investigate	
Deploy	
Transition Out	
Out of Service	

# The Development Environment Layer Roadmap

## NBS 2.0 5-Year Roadmap

Architecture Element - Development Environment	2008				2009				2010				2011				2012			
CY Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10.1.2.0.2	Out of Service				Out of Service				Out of Service				Out of Service				Out of Service			
10.1.3.x (Fusion Middleware)	Deploy			Transition Out	Out of Service				Out of Service				Out of Service				Out of Service			
11.X	Investigate				Deploy				Transition Out	Out of Service			Out of Service				Out of Service			
12.X	Investigate				Investigate		Investigate		Investigate	Deploy			Transition Out		Out of Service					
13.X	Investigate				Investigate				Investigate	Investigate			Deploy				Deploy			
Development Technology Investigation																				
JDeveloper (Current release + all upgrades)	Investigate				Investigate				Investigate				Investigate				Investigate			
OC4J (Current release + all upgrades)	Investigate				Investigate				Investigate				Investigate				Investigate			
Position on ADF + Other Frameworks	Investigate				Investigate				Investigate				Investigate				Investigate			
OAF Migration to ADF	Investigate				Investigate				Investigate				Investigate				Investigate			
Workflow Migration to BPEL	Investigate				Investigate				Investigate				Investigate				Investigate			

Legend	
Investigate	Light Blue
Deploy	Green
Transition Out	Yellow
Out of Service	Red

# The Lifecycle Management Layer Roadmap

## NBS 2.0 5-Year Roadmap

Architecture Element - Lifecycle Mgmt	2008				2009				2010				2011				2012							
	CY Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
10g																								
10g R2																								
11.X																								
12.X																								
13.X																								
Oracle Enterprise Manager Investigation																								
Distributed Computing (Joint with Database)																								
Implementation Workbench																								
Migration of Configuration Data Functionality																								
Track Config. Changes (OAM Pack)																								
Business Activity Monitoring																								
Performance Management Functionality																								
Patching Functionality																								
Update/Upgrade Functionality																								
Configuration Support Manager																								
New Release Features																								

11g Certified on 11i Apps

E16K Replacement

Legend	
Investigate	Light Blue
Deploy	Green
Transition Out	Yellow
Out of Service	Red