

# JDE Upgrade

## The Ins and Outs of Enhancement Migration

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# Why Upgrade?

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1. Leverage Software Investment
2. Achieve Current Support
3. Address Significant Business Changes
4. Expand Use of JDE Applications
5. Increase System Security, Automated Controls and Data Integrity
6. Consolidate Applications / Reduce Customizations
7. Enhance Access to Enterprise Data
8. Reduce Overall System Maintenance Costs
9. Facilitate Transition to Fusion Applications
10. Gain Access to Fusion Components / Middleware

# Key Strategic JD Edwards Upgrade Question

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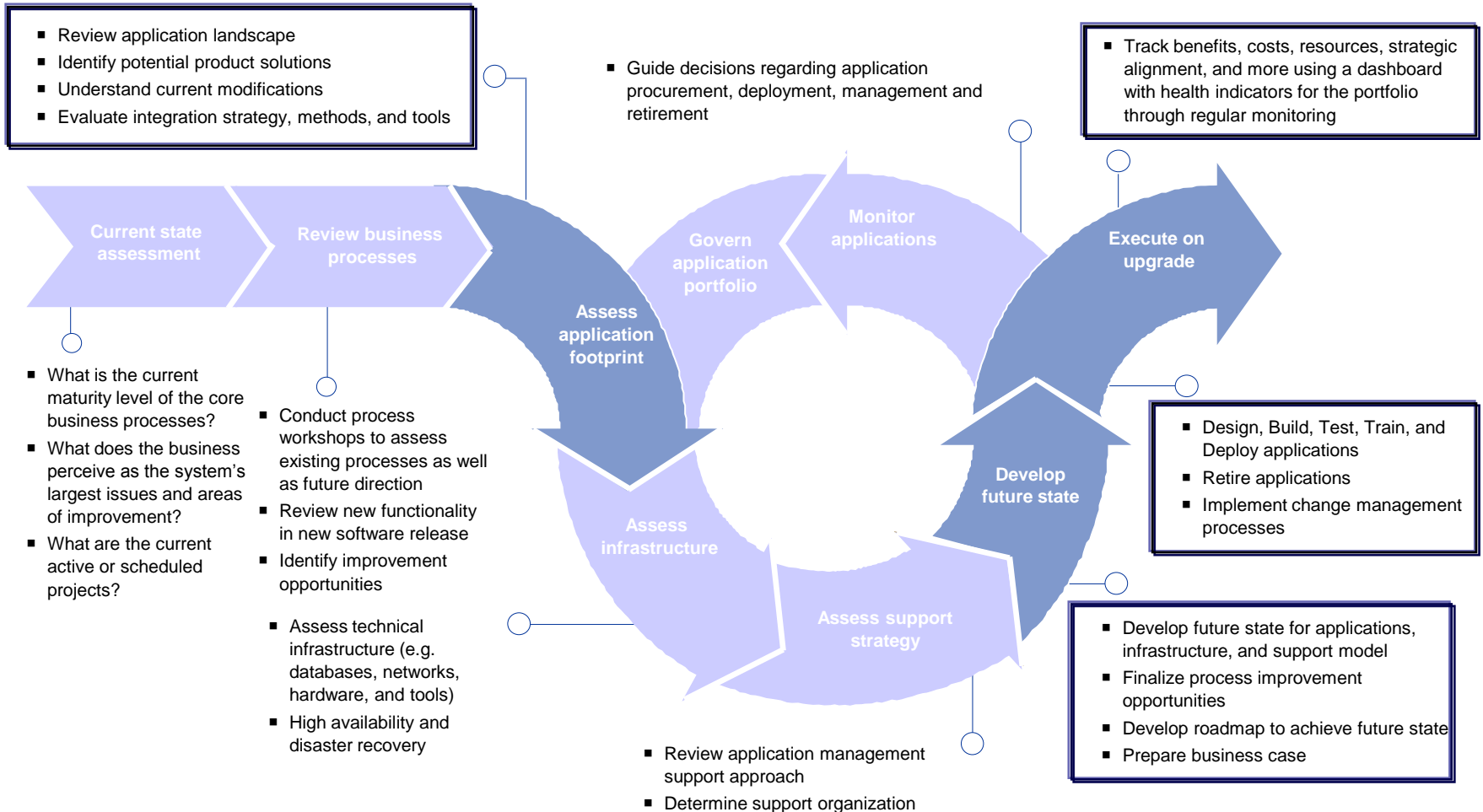
“Should I do a pure technical upgrade or a value-based transformation?”



- ☑ What new functionality is available and how can it drive additional value for the organization?
- ☑ How can additional modules drive value for the organization?
- ☑ Is incorporating additional Edge products into the solution appropriate?
- ☑ What are the process improvement, standardization, and enhancement elimination objectives?
- ☑ What are the applicable technology options going forward? Hardware, operating systems, middleware, database?
- ☑ What deployment approach reduces risk and cost?
- ☑ Can we leverage the JDE upgrade tools or is this a reimplementations?
- ☑ How many instances exist? Is instance consolidation appropriate?

# Considerations for Planning a JD Edwards Upgrade

A structured approach to planning your upgrade can help you answer these strategic questions .....  
And help drive a value based upgrade approach



# Agenda

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- Planning Considerations
- Object assessment and analysis
- Upgrade Tools
  - Object Specification Merge
  - Event Rules Compare
  - Form Design Aid Compare
  - Other Code Comparison Tools
- Case Study – Brasscraft
- Final Thoughts

# Planning Considerations for Enhancement Migration

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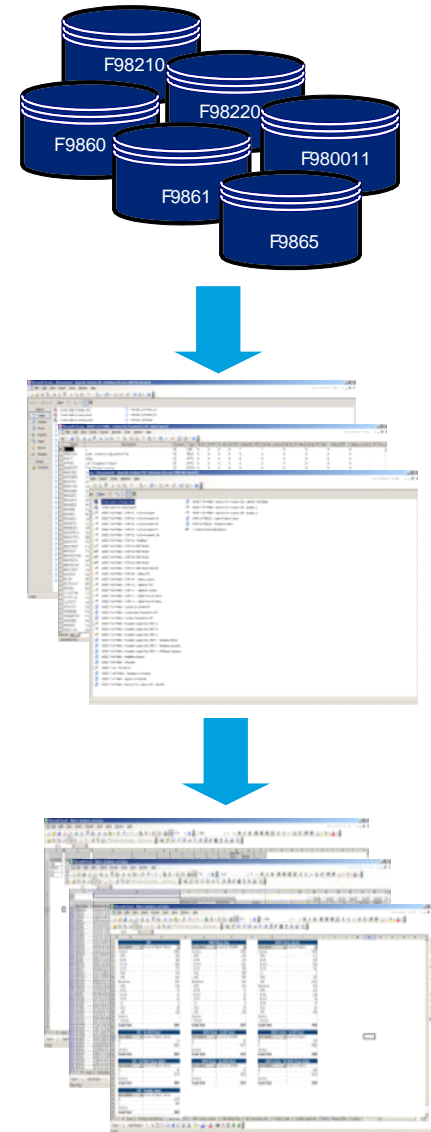
## Prepare ahead of time

- Gather documentation of custom and modified standard objects
- Inventory and categorize customizations
  - Bolt-on's and brand new objects
  - Modified clones of standard objects
- Review new enhancements and Service Requests (SRs)
- Work with business analysts or developers to determine if customizations are still applicable
  - Does new functionality replace any customizations?
  - Does the business process still require the customizations?
- Filter the modifications – new functionality or customizations
- When should the development freeze become effective
- Work with CNC to configure and execute the object specification merge
- Develop and review test scenarios

# Upgrade Changed Object Assessment

It is important to understand current modifications and enhancements to effectively estimate the effort required to execute an upgrade:

- Plan and strategize the execution of the upgrade based on customizations identified
- Get a listing of changed objects
- Identify objects to be migrated to new release
- Understand customization complexity levels
- Deloitte has automated tools that can accelerate the upgrade planning effort
  - Pre-built queries to analyze objects and system quality
  - Calculates the effort required to retrofit RICEW objects for an upgrade project
  - Increases the precision of the estimate by using an analytical and empirical method to determine the level of effort



# Basic Object Analysis

Categorizing objects by work activity helps with effort estimation. Objects should also be dispositioned for retrofit, redesign/rewrite, or move to standard.

Category	Definition
Custom	Custom objects not part of the EnterpriseOne delivered object base
Modified Base Object	Standard EnterpriseOne delivered objects that were modified to meet the business requirements
Copied from Base Object	Custom objects copied from standard EnterpriseOne objects and modified to cater to the business requirements
DV/PY – Not PD	Objects that reside in both DV and PY, but have not been migrated to PD. Either remove the object or identify the specific objects as being migrated to PD in the future
Remove – Dummy	Objects identified as not required in the new EnterpriseOne production environment based upon object name or description appearing to be a “test” object
Remove – DV Only	Objects identified as not required in the new EnterpriseOne production environment based upon the object only residing in DV. Identify the specific objects as being migrated to PD in the future.
Remove – PY Only	Objects identified as not required in the new EnterpriseOne production environment based upon the object only residing in PY.
Remove - Unused	Objects identified as not required in the new EnterpriseOne production environment based upon the last execution date

Upgrade Category	Total
Custom	1000
Modified Base Object	200
Copied from Base Object	120
DV/PY – Not PD	80
Remove – Dummy	100
TOTALS	1,500

Upgrade Category	Total
APPL – Interactive Application	100
BSFN – Business Function	20
BSVW – Business View	10
DSTR – Data Structure	10
TBLE – Table	10
UBE – Batch Application	50
TOTALS	200

# Advanced Object Analysis

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In addition to the basic analysis results, the object analysis tool can also provide enhanced results such as:

- Object merge flag accuracy – ESU updates versus true code modifications
- Obsolete/no longer used objects – utilizing menus, tasks, and other where used analysis
- Object system code categorization – system code 55-59 versus JDE standard/reserved system codes
- Batch application/version usage – depending on available data (based on the frequency of the data purge)

The object analysis tool has the flexibility to analyze objects and data, and categorize the results based on the requirements of each client.

# Upgrade Code Migration Tools

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There are several basic tools used to migrate your code changes from one release to another

- Object Specification Merge Report – JD Edwards report to review custom objects moving from current environment to new environment
- Form Design Aid (FDA) Compare – JD Edwards tool that allows you to compare and move changes to interactive applications
- Visual Event Rules (ER) Compare – JD Edwards tool that allows you to compare and move changes to interactive and batch applications
- Third party tools that allow you to compare modifications to business functions and Named Event Rules (NERs)
- Third party tools that allows you to move objects between JD Edwards EnterpriseOne instances

These tools are used for EnterpriseOne to EnterpriseOne code migration and do not apply for World to World or World to EnterpriseOne upgrades

# JD Edwards Object Specification Merge

Object Specification Merge Report (R98700) lists which objects will be merged or skipped

The JD Edwards Specification merge process utilizes:

- Object librarian modified and merge flags determine which objects to merge
- Flags can be manually updated
- Preserve and replace rules apply for various types of objects
- Typically executed one time

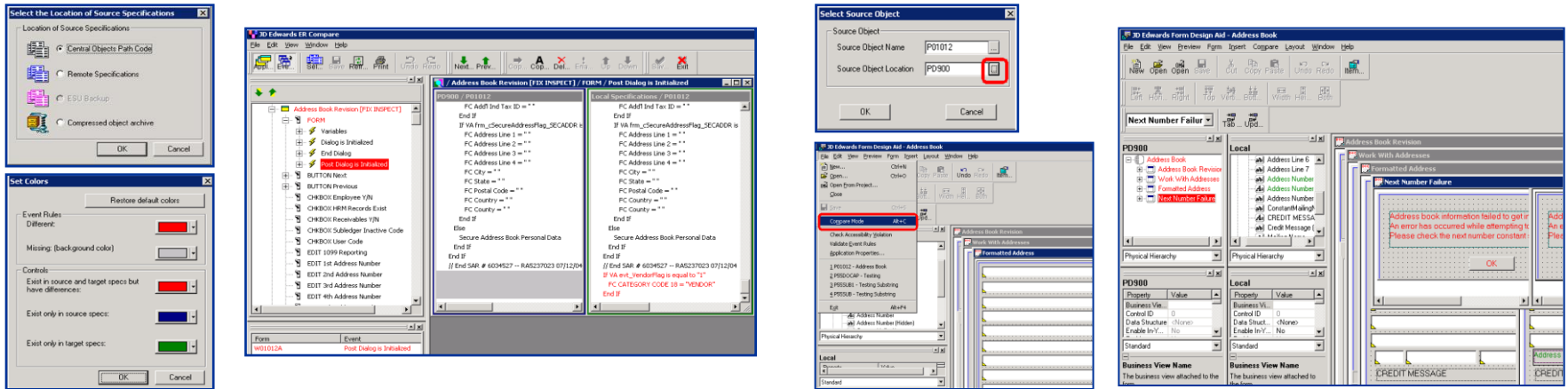
Any modifications to standard objects that are not preserved will require a custom code retrofit

Third party tools exist that can be used to migrate missed or new objects

	Preserve	Replace
<b>Interactive Applications</b>		
• Custom applications	X	
• Changes to standard JDE applications		X
<b>Event Rules</b>		
• Custom objects	X	
• Changes to standard JDE objects		X
<b>Data Structures / Processing Option Templates</b>		
• Custom objects	X	
• Changes to standard JDE objects		X
<b>Tables</b>		
• Custom tables	X	
• Custom indexes (standard tables)	X	
• Columns added to existing tables		X
<b>Business Views</b>		
• Custom business views	X	
• Added columns, joins, or indexes (standard business views)	X	
• Removed columns (standard business views)		X
<b>Versions</b>		
• XJDE versions		X
• ZJDE versions	X	
• Other versions	X	

# Manual Code Migration / Retrofitting Tools

These visual tools compare code, identify differences, and speed up the manual migration process



## Visual Event Rules (ER) Compare

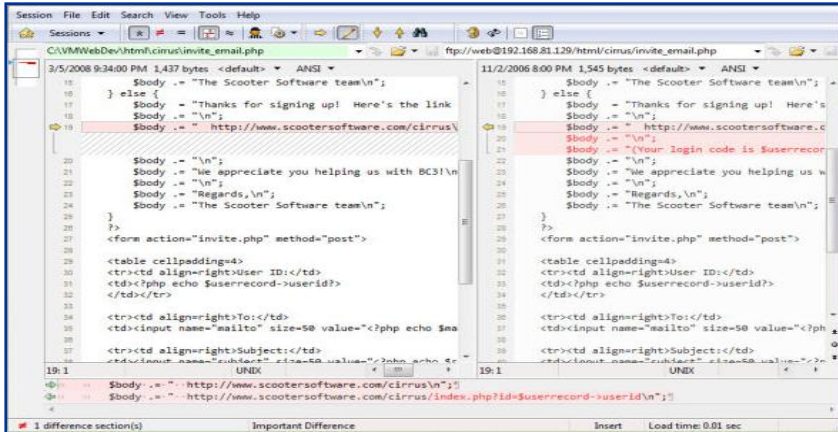
- Interactively compare event rules for interactive and batch applications
- Copy or Merge differences from source to target
- Beneficial for both upgrades and development

## Visual Form Design Aid (FDA) Compare

- Interactively compare forms and controls on interactive applications
- Copy or Merge differences from source to target
- Beneficial for both upgrades and development

# Manual Code Migration / Retrofitting Tools

These visual tools can also be used in the course of normal development activities after the upgrade project is over



## Code Comparison Tools

- Compare C business functions and Named Event Rules (NER)
- Differences need to be retrofitted manually or merged where possible
- Beneficial for both upgrades and development

## Advanced Get

- Allows specs to be retrieved from previous Production environment in cases.
- Requires a new record to be added in path code master (P980042) pointing to the previous environment (e.g. PD810).
- Changes are checked in via Object Management Workbench (OMW) and promoted to Test and Production just like newly developed objects.

## Third Party Migration Tools

- Third party tools exist that can be used to migrate missed or new objects from one environment to another environment

# Case Study – Code Migration at BrassCraft

- BrassCraft Manufacturing Company, a Masco Company, is a leading manufacturer of gas and water supplies for use in the new construction and repair/remodel markets.
- The company's motto: "Committed to Quality, Driven by Innovation" is reflected in the thousands of high-reputation gas and water plumbing products that are sold under the BrassCraft brand.
- Founded in 1946, BrassCraft is headquartered in Novi, Michigan and has manufacturing facilities in the USA.



- JD Edwards software is used by 450 employees in five of seven manufacturing and distribution locations in North America.
- JDE modules in use:  
Manufacturing Execution, Product Cost , Asset Lifecycle Management, Procure to Pay, General Ledger

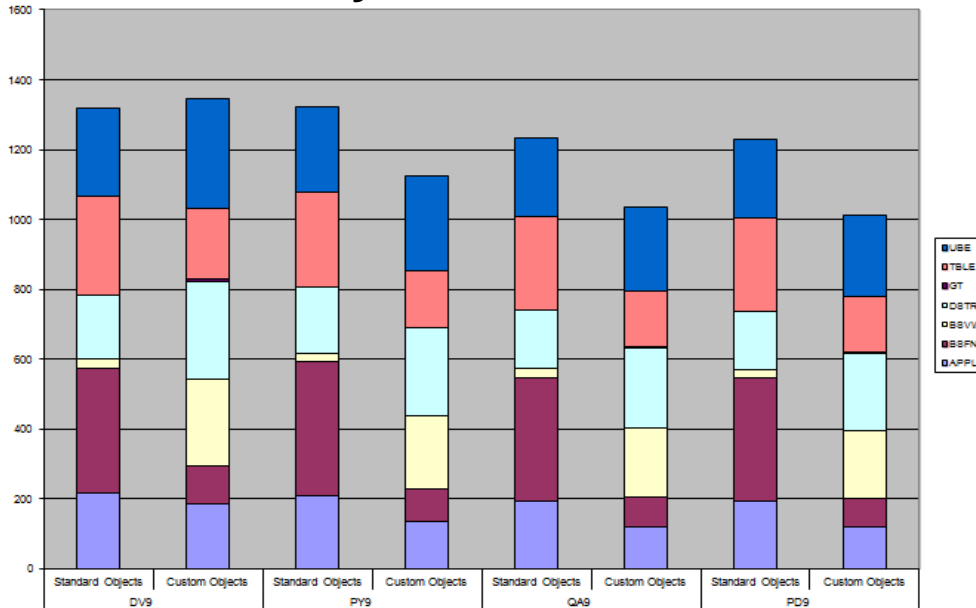
# JDE EnterpriseOne 8.9 to 8.12 Upgrade Objectives

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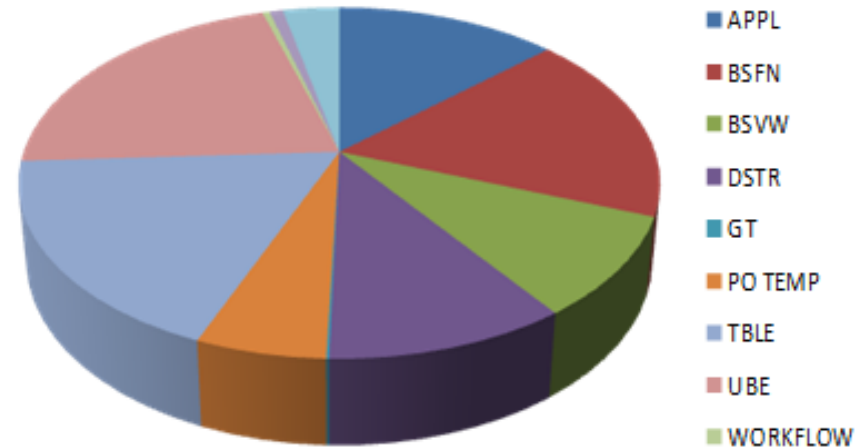
1. Primary objective - technical upgrade
  - Establish new version to support **future** new module implementation
  - Refrain from adding net new JDE functionality
  - Migrate customizations and enhancements
  - Prepare new environment through multiple (3 planned) rounds of testing
2. Convert production database to Unicode format
3. Upgrade Windows based server hardware: Web, Deployment, e-Gen servers
4. Implement QSoftware tool to support security redesign
  - Redesigned Function and Role security to facilitate one time sign-in
  - Designed and developed custom security view and maintenance application
  - Implemented Segregation of Duties (SOD) rules validation
  - Streamlined security change and audit processes.
5. Provide ongoing development in 8.9 to support the business
  - Parallel development in both old and new releases was selected
  - Development was frozen during testing and go-live

# Object Analysis – Planning the Migration

## By Environment



## By Object Type

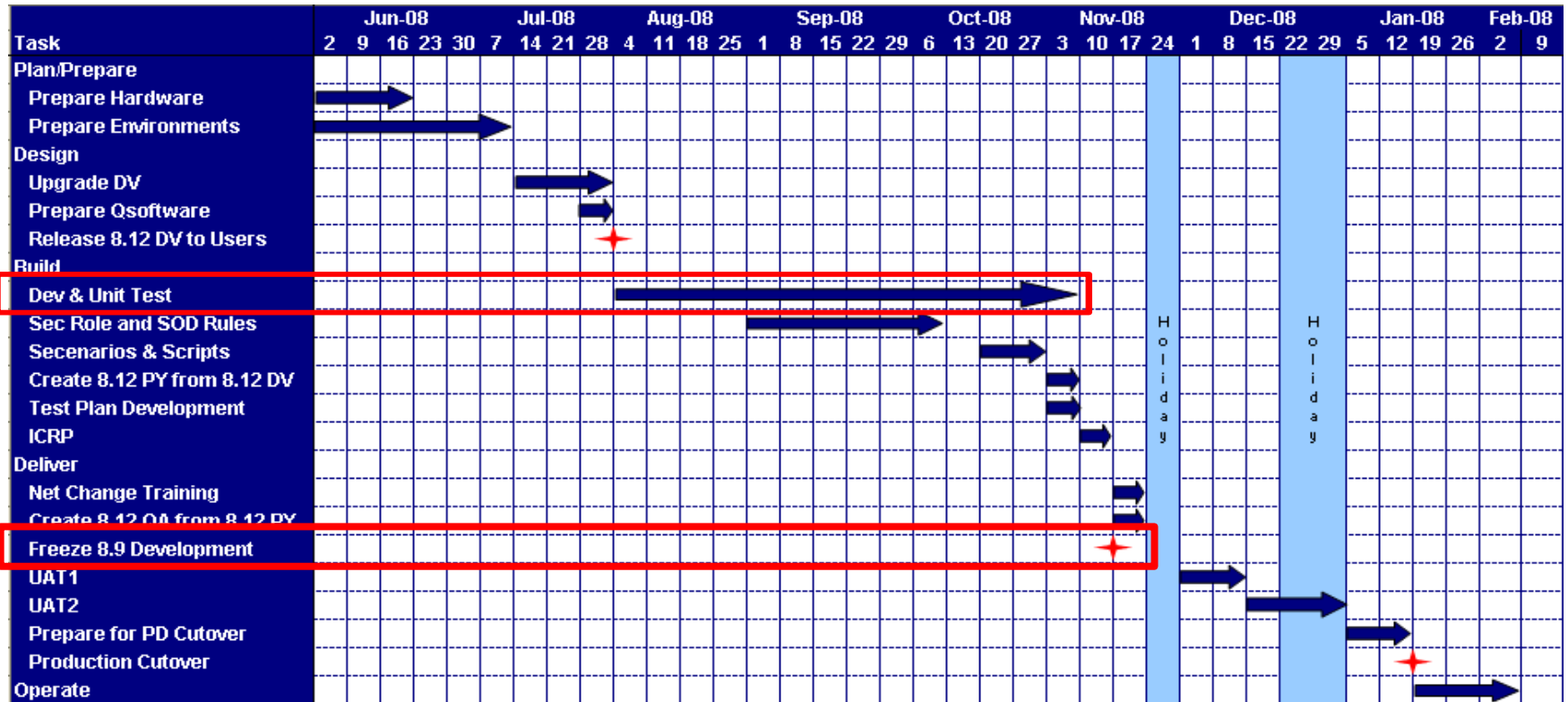


2312 changed or custom objects

- 524 Modified/Custom/changed objects were NOT brought forward
- 138 objects required some level of retrofitting
  - 113 applications, business functions, UBE's
- 1650 objects were migrated via upgrade specification merge
- 264 objects were standard object copies

Additional object retrofitting was done based on unit testing

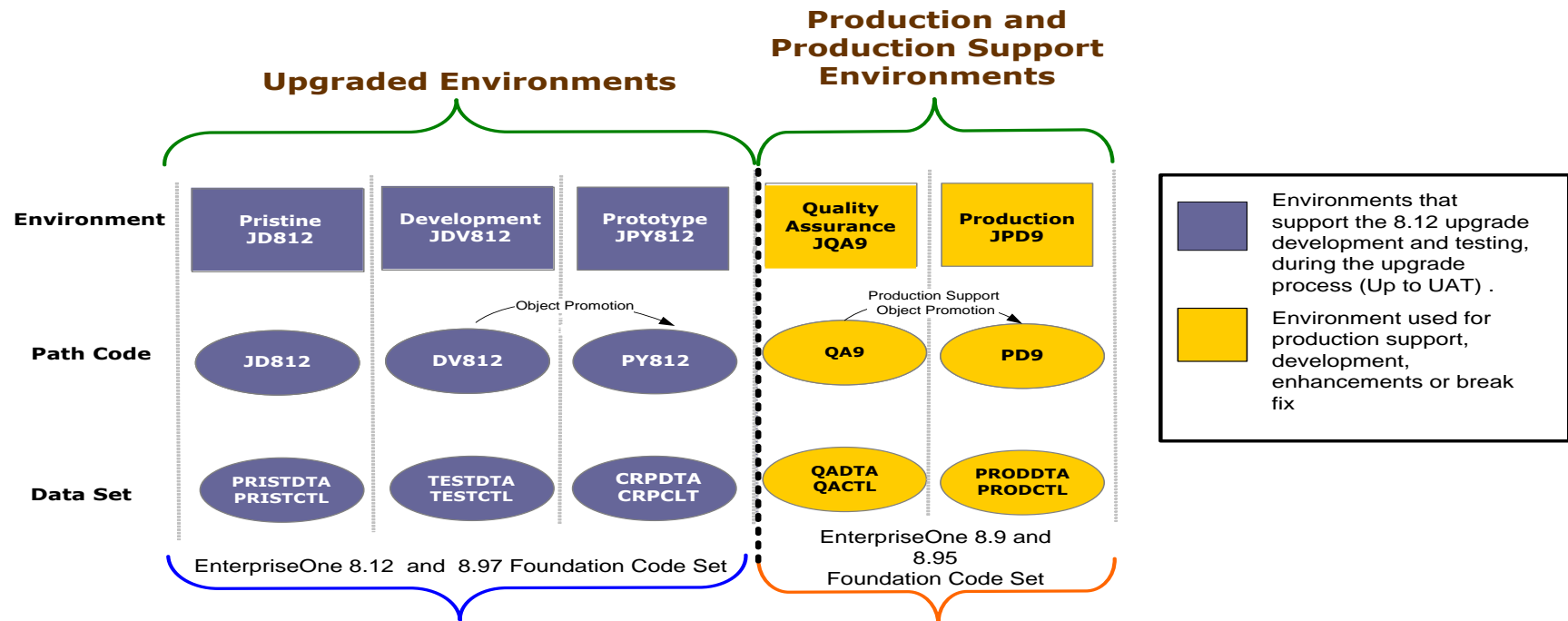
# Enhancement Retrofit Project Timeline



- Eight primary resources worked on code migration and unit testing
- Trained developers and CNC on code retrofitting tools and process
- Work was completed 4-weeks ahead of schedule
- Development freeze instituted before user testing cycles
- Minimal defects during user testing

# Parallel Development During Upgrade

- Support in progress development projects
- Develop and apply production fixes if required during upgrade
- Environment strategy for in-place upgrade was developed before technical work started
- Used Snapshot on developer workstations to switch development environments between JDE releases (carefully follow switch procedures)



# Lessons Learned

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- Involved user community in impact analysis early on – setting expectations
- Functional consultants work with users on script development and testing
- Rigorous analysis of impacted objects was key laying out a project plan
- Use internal developers if/where possible – “They have the knowledge!”
- Keep track or avoid XJDE version changes
- Keep track of UBE section changes
- Maintaining of a multi-foundation environment to support upgrade activity
- BrassCraft’s configuration allowed developers the opportunity to make modifications in QA for emergency purposes
- Put QA (if you have one) environment in a virtual machine.
- BrassCraft’s internal documentation methodology called for it to enter the associated IS Request Number along with a short description of the change in the Objects attachment.
  - This leading practice helped BrassCraft identify what objects had been modified and the relative impact. This log also saved a significant amount of time in unit testing because it helped determine what activities needed to be tested.

# Additional Thoughts

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## Upgrading your JD Edwards solution can provide a business value opportunity

- Don't fear enhancement migration
- Chance to use a “clean slate” – remove as many modifications as possible
  - Replace customizations with new functionality
  - Reduce integrations by implementing new modules
  - Re-align customizations with business requirements
  - Opportunity to clean up your environments
- Consider code freeze versus dual maintenance
- Consider Unicode if upgrading from a non-Unicode environment
- Allow sufficient time for testing

# Questions

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