

Delivering Smarter Commerce



IBM WebSphere Commerce Migration in V7

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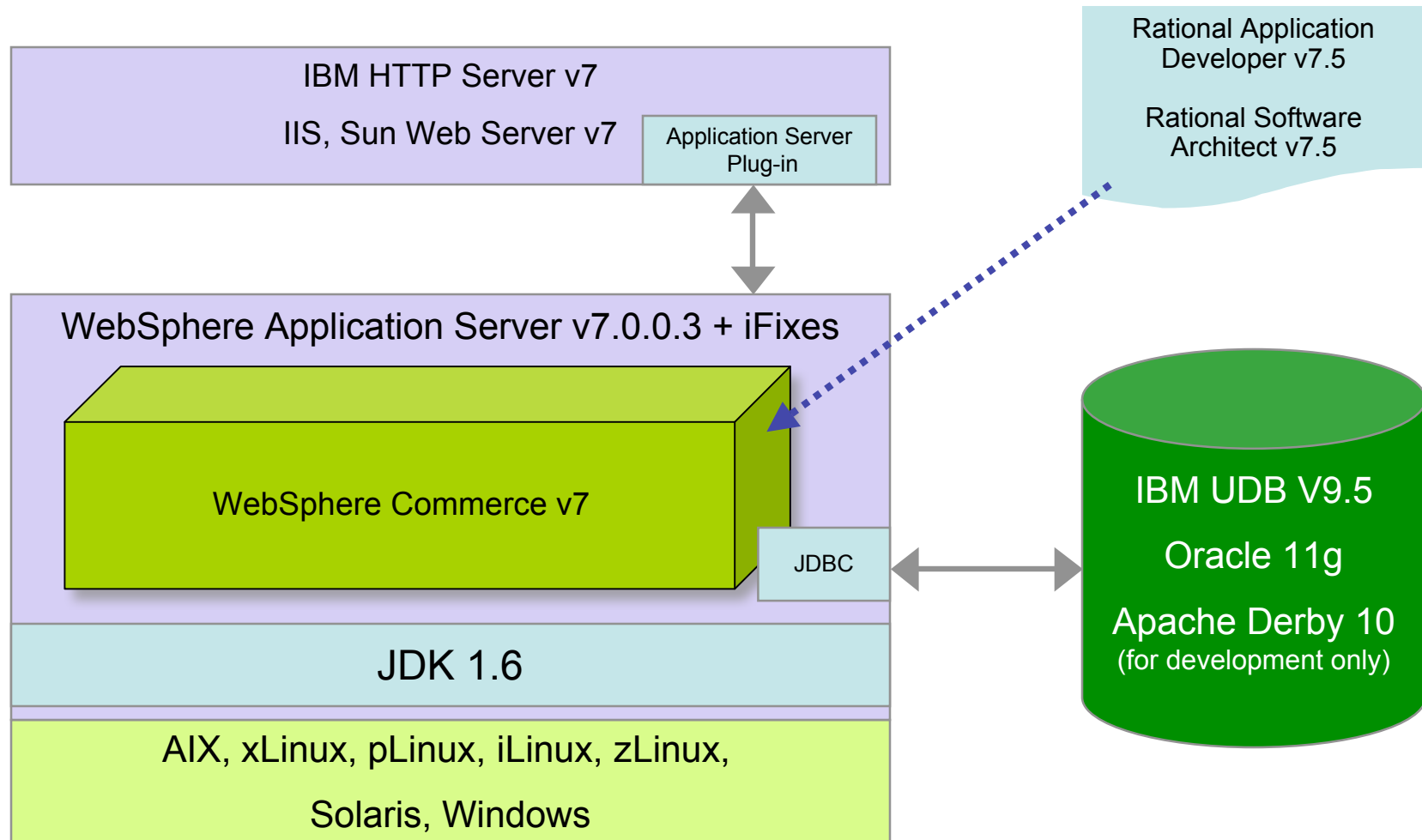
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Agenda

- Migration Roadmap
- Migration Project Methodology
- Migration Tooling
- Minimum Downtime and Rollback with CDC (future)
- Documentation

- Migration Best Practices

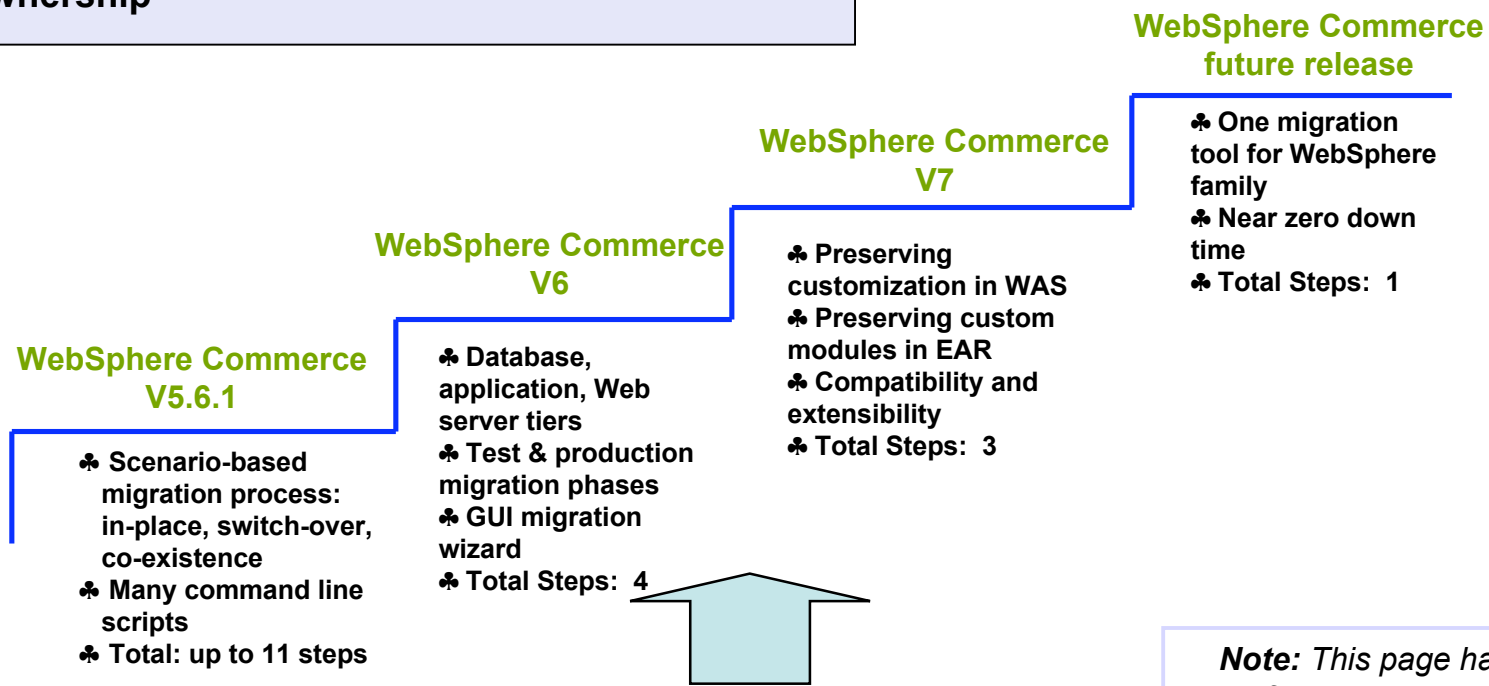
What's New



WebSphere Commerce Migration Roadmap

WC migration is enhanced significantly in V6 and V7

Benefits
Simpler, faster, less downtime, less intrusive, preserving customization to reduce total cost of ownership



Incremental Enhancements

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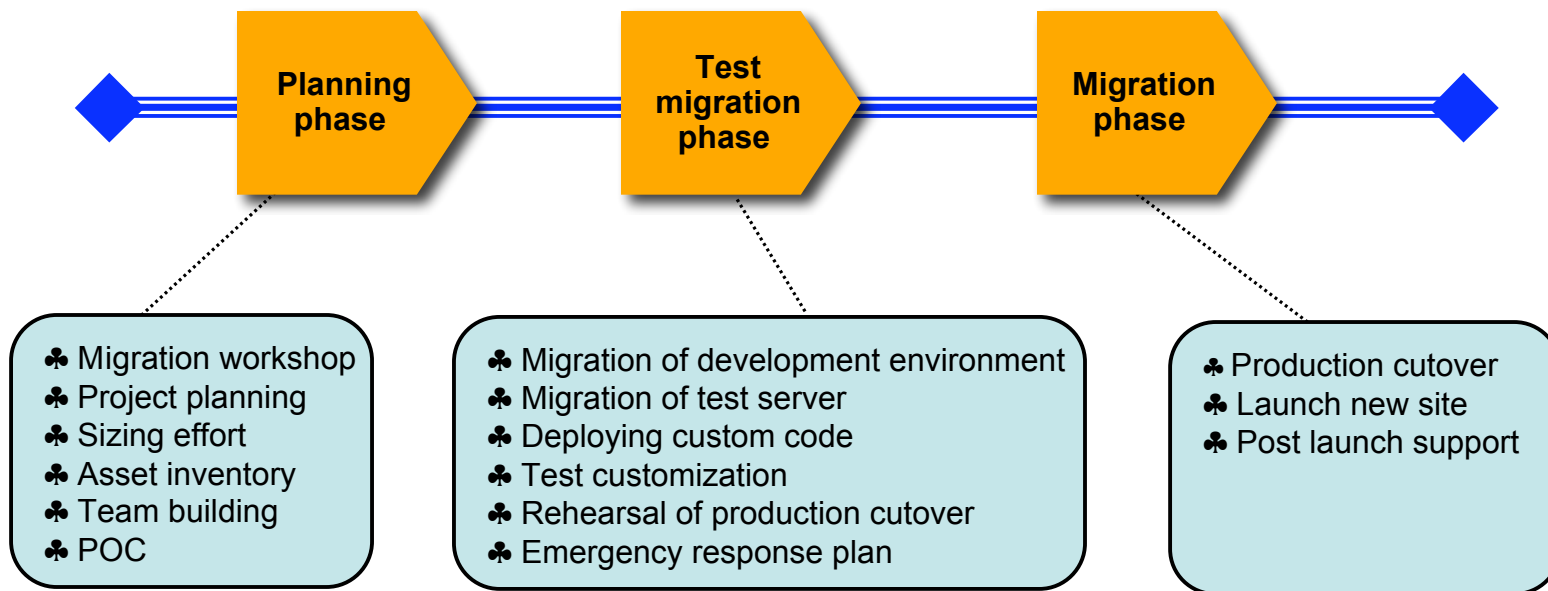
Direct Migration Paths

- Version
 - 5.6.1 \diamond 7.0
 - 6.0 \diamond 7.0
 - 6.0 + any combination of FEPs \diamond 7.0
- Edition
 - Transparent upgrade to a higher edition during migration
 - Express \diamond Professional
 - Express \diamond Enterprise
 - Professional \diamond Enterprise
- 5.6.1 end-of-service in Sept. 2010

	7.0 Express	7.0 Professional	7.0 Enterprise
5.6.1 Express	Yes	Yes	Yes
5.6.1 Professional	No downgrade	Yes	Yes
5.6.1 Enterprise	No downgrade	No downgrade	Yes
6.0 Express	Yes	Yes	Yes
6.0 Professional	No downgrade	Yes	Yes
6.0 Enterprise	No downgrade	No downgrade	Yes
6.0 FEPs Express	Yes	Yes	Yes
6.0 FEPs Professional	No downgrade	Yes	Yes
6.0 FEPs Enterprise	No downgrade	No downgrade	Yes

Migration Project Methodology

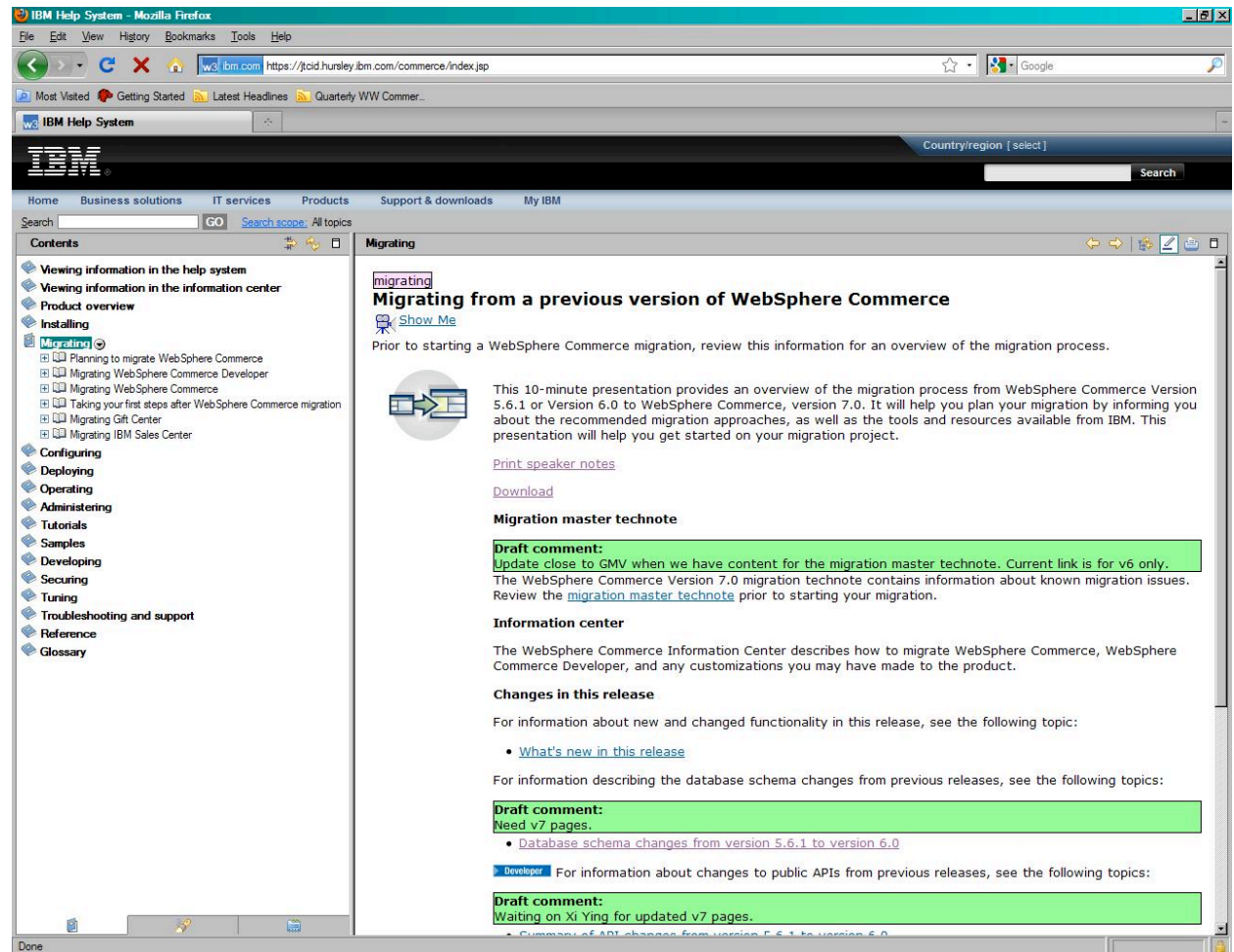
WC migration is a full-sized project. Careful planning is the key.



Typically version to version migrations can take between 3 to 6+ months to complete. Much of the time is the testing required once the code is migrated.

Migration InfoCenter

- Single starting point to find all the documentation for migration
 - Migration overview
 - Flash movie
 - Project planning template
 - Migration guide
 - trouble-shooting
 - FAQ
 - Whitepaper
 - Technotes



Project planning and sizing template

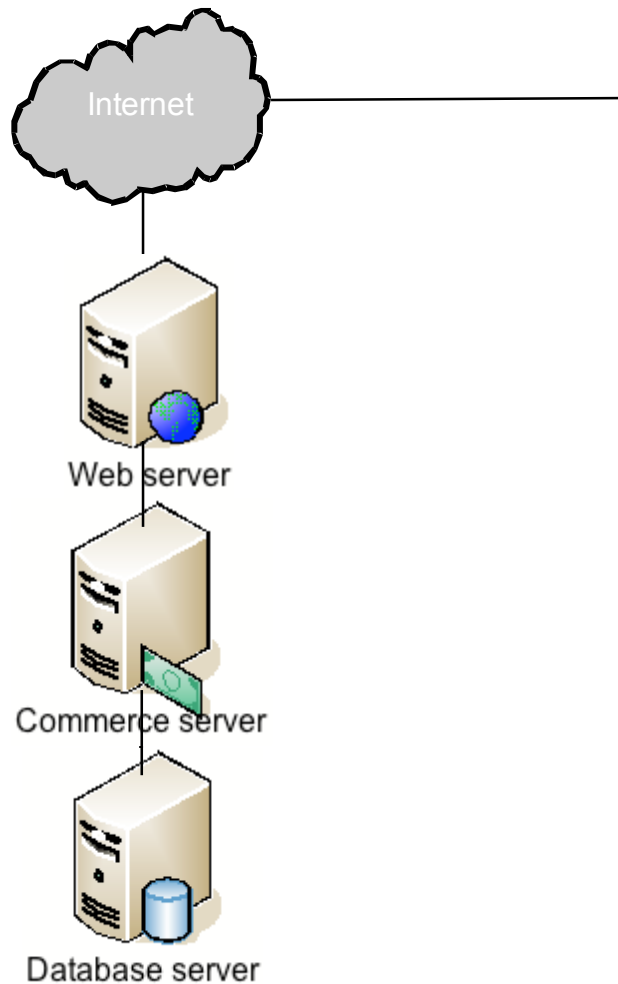
Planning and sizing sample template
 This template can be used as a basis for creating your own project planning and sizing. Modify the template to reflect your level of customization, site topology,

Task	Sub Task	Estimated duration	Complexity	Owner(s)	Assumptions, Comments
Site analysis and preparation	Review the current site, and collect: <ul style="list-style-type: none"> Design documentation Use cases Custom code 				
	Review new features and changes in WebSphere Commerce version 7.				
	Gather new requirements				
	Review deprecated and removed APIs and determine how you are going to address each one.				
	If you have previously performed customization of the Management Center, review any changes that affect your customizations and determine how you are going to address each one.				
Technical staff education	If you have connections to external systems, you need to ensure that there are test stubs / test connections available for your migration team to use.				
	Review traffic statistics for your site and project statistics for the future. Use this analysis to determine if you are going to need to purchase new hardware. Procuring hardware can take time, and you will want to include this in your project plan.				

Major tasks

- Site analysis and preparation
- Technical staff education
- Development environment migration
- Test environment migration
- Production server migration
- Test the migrated site
- Get education for the day to day maintenance
- Post launch support
- Project management
- Contingency (for unknown or unexpected issues)

Migrate WC Tier by Tier

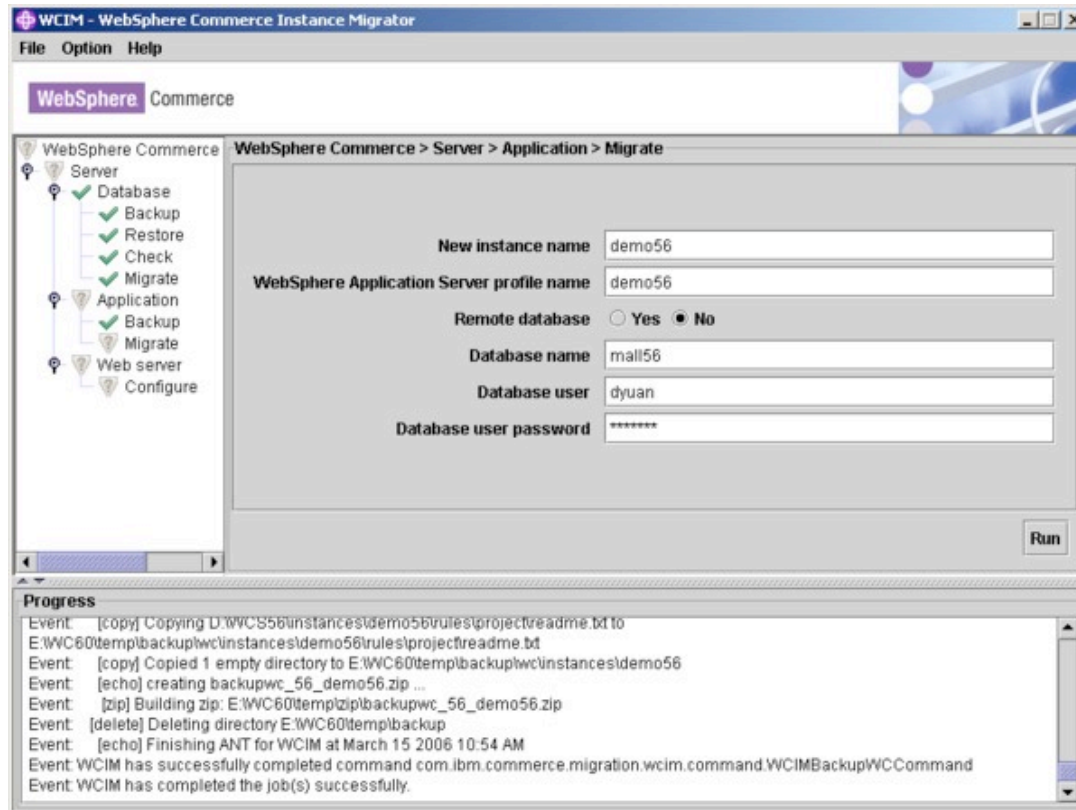


Commerce V 5.6.1

Commerce V 7.0

- Phases of a migration project:
 - Planning phase
 - Documentation
 - Test migration phase
 - Wizard
 - Production migration phase
 - Wizard
- Order to migrate in test and production migration phases:
 - Database
 - Application
 - Web server

Migration Tooling

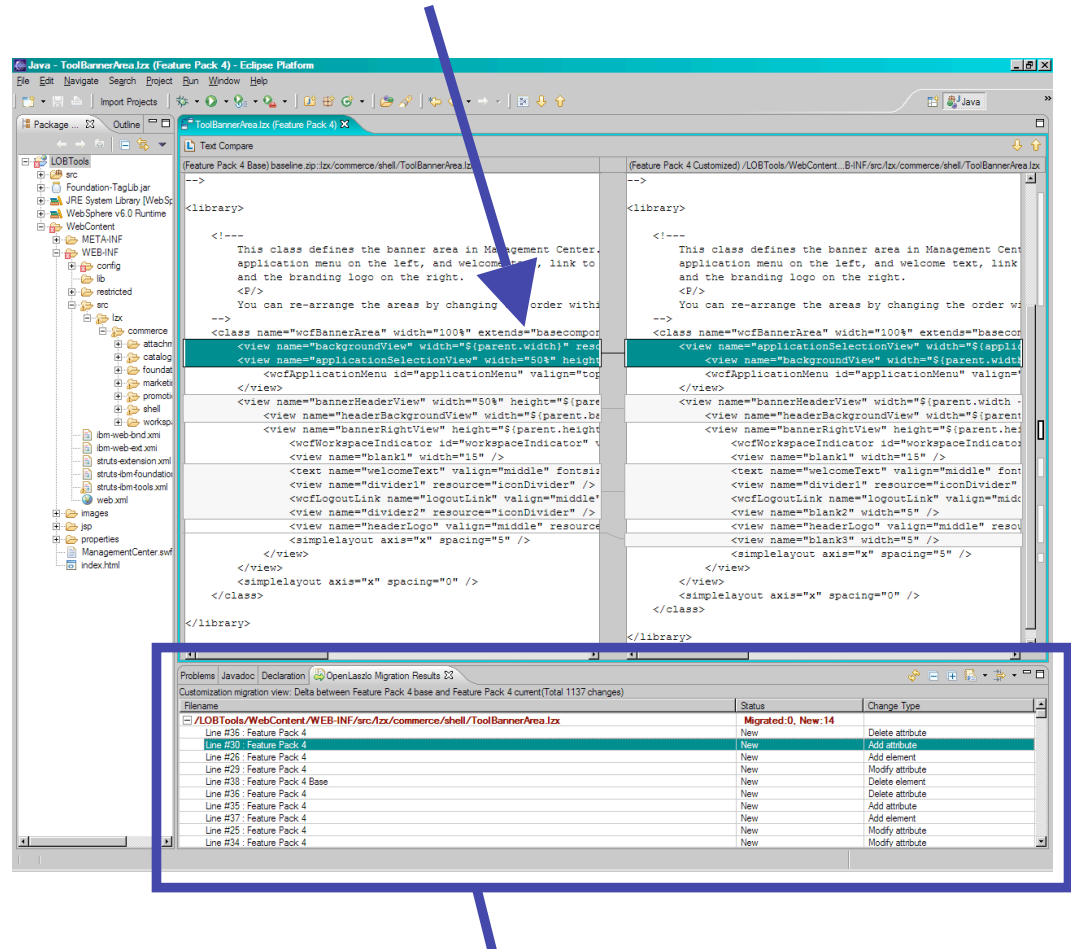


- Migration wizard enforces migration phases and three tiers
 - Test & production migration phases
 - Database, application & Web server tiers
 - Guides you step-by-step
 - Migrates WAS configuration automatically (V7)

Migration of WebSphere Commerce Feature Packs

Highlight Delta in OL file that need to be migrated

- V6 with Feature packs migrated just like regular V6
- **Management center migration must be done in Toolkit first if customized**
 - OpenLaszlo Delta Tool
 - Evaluated with services team and received good feedback
 - Two patents pending



List all delta that needs to be migrated and provide suggestions on how to migrate

Migration Best Practices



Migration Best Practices

- A “Failure to Plan” is the same as “Planning for Failure”
 - It is absolutely critical to plan out all the steps
 - Create a detailed schedule including users, passwords, tasks, owners, timing, check points, validation steps, and roll back plans
 - The Project Manager is a critical resource

Migration Best Practices

- Separate a “base” migration from taking advantage of new functionality or moving customizations back to out-of-the-box
 - At least from a planning/testing point of view, carry out the “as-is” migration (including change in Edition and/or Operating System) first and verify that everything still works ok
 - And then as a separate step, test changing the business model, and then start to take advantage of new features, build new customizations, or move customizations back to out-of-the-box features

Migration Best Practices

- Conduct a time-boxed “Quick Migration” to validate migration sizing
 - Why?
 - Using a relatively small amount of time, discover what works and doesn’t work after using the out-of-the-box migration process
 - Definitely helpful if the team that will carry out the migration is NOT the team that originally deployed the existing code
 - Timeframe
 - 4-6 weeks elapsed time with 240-360 labour hours

Migration Best Practices

- Conduct a time-boxed “Quick Migration” to validate migration sizing
 - Skills/Roles Required
 - Solution Architect (~2-3 weeks)
 - To plan the scope of the migration and priority of review
 - To evaluate and summarize migration findings and size/plan full migration effort
 - Developer (~4-6 weeks)
 - To carry out the migration on a developer environment
 - To carry out a regression Function Test of the site
 - To investigate any defects that arise and figure out what it would take to fix

Migration Best Practices

- Conduct a time-boxed “Quick Migration” to validate migration sizing
 - Pre-requisites
 - Approved Use Case Document
 - Regression FVT Test Plan
 - Source Code
 - Design Documents (Solution, Macro, Micro)
 - Stubs or Test Systems for ISVs / back-end systems
 - Networking and General Infrastructure (machine, userIDs, security access (e.g. for ports))

Migration Best Practices

- Conduct a time-boxed “Quick Migration” to validate migration sizing
 - Deliverables
 - Partially-migrated developer environment, which can be re-used during the full migration
 - List of defects, including some resolution plans
 - Migration Plan
 - Migration Labour Sizing

Migration Best Practices

- Incorporate a change in Business Model into the Migration Plan
 - It's too costly to launch an migrated version, including edition upgrade, and later change the business model
 - With careful planning and testing, ISSW can assist you to move from B2C- or B2B-Direct to Extended Sites during a Migration Project

Migration Best Practices

- Include the original architect/developers in the migration planning and testing phase
 - It's absolutely critical to have access to the original architect and/or developers to help with the migration planning and testing, especially when something does not work after the migration scripts are run
 - Documentation is often not up-to-date with the actual code and it's critical to understand how the code is supposed to work and what the expected results are of use-cases and test cases

Migration Best Practices

- Understand the migration impact to ISVs and other integrated systems
 - Due to WebSphere Commerce and its stack being upgraded, do any of the ISV's or other integrated systems' software levels need to change too?
 - Separate “nice to have” software upgrades to ISV and other integrated systems as separate and distinct steps or a whole separate migration activity after the “base” migration

Migration Best Practices

- Minimize additional changes to the production system once the migration testing has begun
 - If further code customizations are made to the production site once the migration tests have begun, then additional migration work needs to be planned to make sure the new customizations are migratable and included in the “new” production environment
 - If further code customizations are happening, then the cost of migration will go up with duplicate migration work and testing
 - Establish a production code freeze date

Migration Best Practices

- Use new hardware for the migrated production environment
 - This keeps the original environment around as a fallback environment
 - This minimizes the downtime as the new environment can be installed and configured in advance, plus the migrated customizations can be deployed and validated, plus the latest catalog can be loaded

Migration Best Practices

- Test ... Test ... Test
 - You must do enough testing of the migration steps so that the production migration is simply just executing a set of known steps
 - Any surprises during the production migration may result in additional downtime, the need to revert back to the original system, or inconsistencies introduced into the system
 - Execute a Performance Test on the migrated test system before undertaking the production migration

Migration Best Practices

- Test the new build & deploy process
 - Version 7 will introduce WebSphere Commerce Build & Deploy (WCBD)
 - Practice the new deploy process with the migrated developer and test systems

Migration Best Practices

- Test the new data load process
 - Version 7 will introduce a new data load that is more scalable, faster, and includes an abstracted data model
 - Practice the new data load process with the migrated developer and test systems

Migration Best Practices

- Clean up the pre-migrated database
 - Use DBClean to remove old and unnecessary data
 - E.g. orders, users, catalog, promotions, contracts, etc.

Migration Best Practices

- Backup before you begin
 - Backup all data
 - Backup all configurations of the software stack (web server, application server, and database)

Migration Best Practices

- Have a Rollback Plan
 - Understand the “point of no return” in the migration process
 - What if a step takes longer than expected?
Do you abort?
 - What if the newly migrated site doesn’t perform well? Do you revert back?
 - Have a detailed plan to restore/reload the original system in case of problems
 - Identify key participants in the rollback process and define an escalation and contact process

Migration Best Practices

- Miscellaneous
 - Secure all source code at beginning of migration planning
 - Secure all documentation (design, use-cases, test cases) for the current implementation
 - Secure all appropriate emergency contact phone numbers/e-mails for possible use during production migration
 - Mandatory code changes required moving from v5.6.1 in custom EJBs – Optimistic Locking to V6 and V7
 - When scheduling the production migration, remember to take into account the time required to roll back if necessary

Summary of Migration Best Practices

- A “Failure to Plan” is the same as “Planning for Failure”
- Separate a “base” migration from taking advantage of new functionality or moving customizations back to out-of-the-box
- Conduct a time-boxed “Quick Migration” to validate migration sizing
- Incorporate a change in Business Model into the Migration Plan
- Include the original architect/developers in the migration planning and testing phase
- Understand the migration impact to ISVs and other Integrated Systems
- Minimize additional changes to the production system once the migration testing has begun
- Use new hardware for the migrated production environment
- Test ... Test ... Test
- Test the new build & deploy process
- Test the new data load process
- Clean up the pre-migrated database
- Backup before you begin
- Have a Rollback Plan

Questions

- Answers

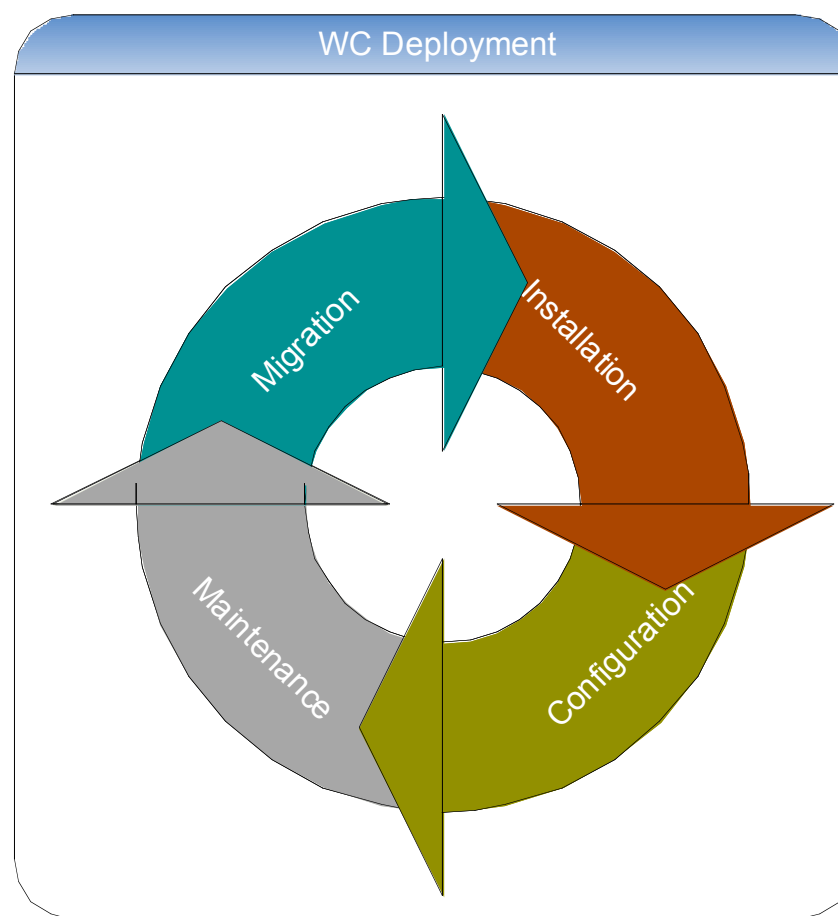


Backup

- Lifecycle of WebSphere Commerce
- Dos, don'ts & recommendations
- Custom asset migration in toolkit
- Migration in a clustered environment
- Minimum downtime and rollback

Lifecycle of WebSphere Commerce

- Deployment spans the entire lifecycle of WC
 - Major release (e.g. V6, V7)
 - Installation
 - Configuration
 - Maintenance
 - Feature enhancement in a release (e.g. Web 2.0, Web services)
 - Installation
 - Feature Enablement
 - Maintenance
 - From release to release or feature pack to feature pack
 - Migration



Overview of WebSphere Commerce migration

Do's

- Migration moves an environment from one release to the next
 - Out of box function used in previous release continues to work in a new release
 - APIs stable for at least two releases
 - Data is moved to the new environment
 - OOTB data and schema updated
 - Custom data and schema untouched
 - Application cluster is preserved in WAS ND environment (V7)
 - WAS configuration preserved
- EJBs created from scratch are kept in the migrated EAR
- Management center customization is largely kept (V7)
 - OpenLaszlo delta tool in toolkit to help the manual merge of files

Don'ts

- Migration does not enable new function in stores
 - For example, Web 1.0 store will not automatically transform to Web 2.0 store
- EJBs customization on OOTB EJBs are not preserved
- Accelerator customization is not preserved

Recommendation

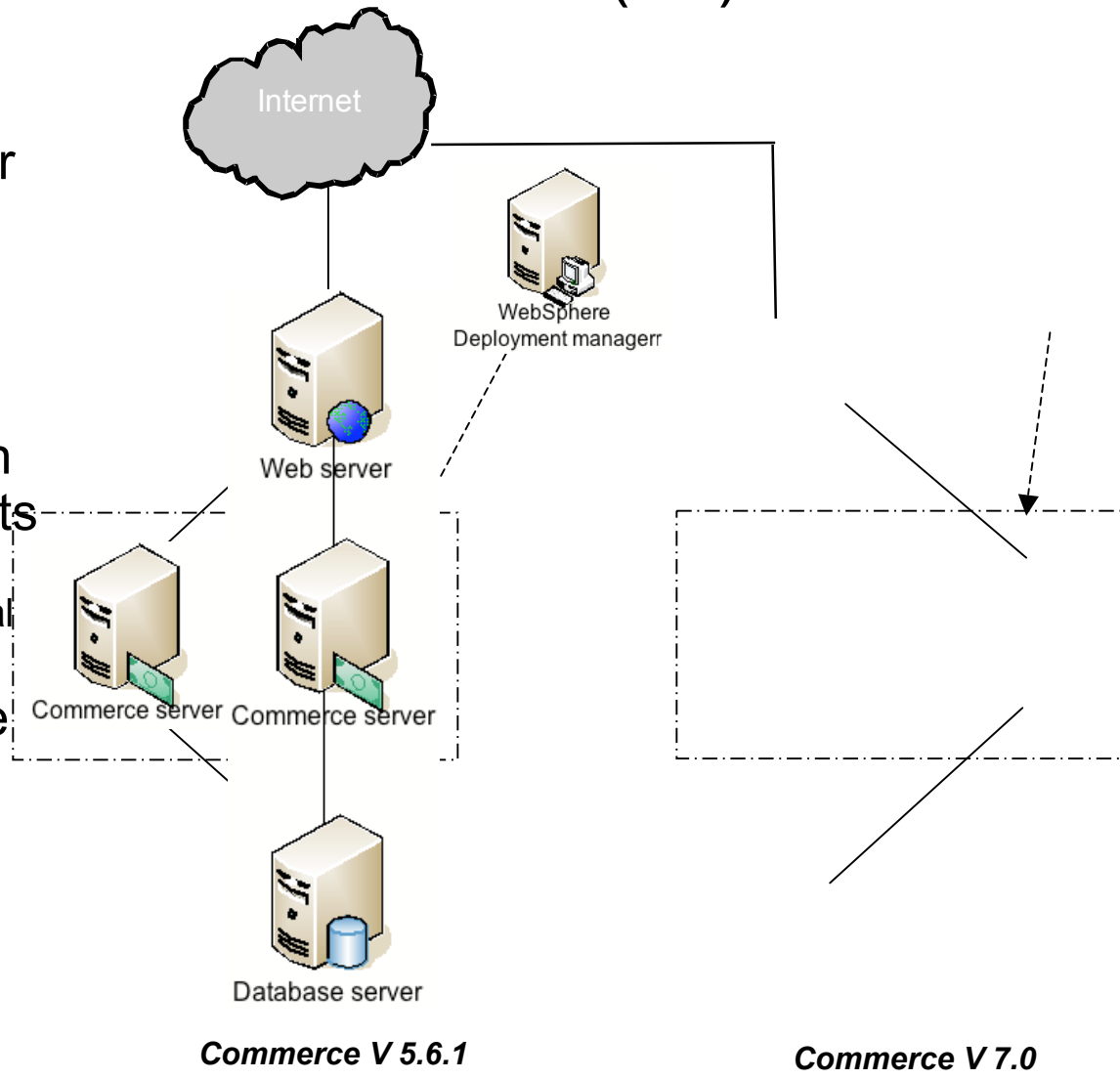
- Customers should make sure migration is successful before deploying the customization of new features

Custom asset migration in Developer Edition

- Instructions on InfoCenter
 - Migrating > migrating WebSphere Commerce Developer > migrating custom assets
- Non-EJB projects
 - Utilities and static Web projects
 - JSTL (5.6.1 only)
 - Commands and databeans
 - Management center
 - Physical SDO
- EJB projects
 - Dependent projects – custom EJBs based on IBM EJBs
 - Independent projects – custom EJBs created from scratch
 - Datasource binding (5.6.1 only)
 - Optimistic locking (5.6.1 only)
- Configuration
 - Wc-server.xml
 - Cachespec.xml
 - JDBC driver

Migration in a clustered environment (V7)

1. Migrate WAS deployment manager with WAS migration script
2. Migrate cluster members on the additional nodes with WAS migration scripts
 - Only WAS has to be installed on the additional nodes
3. Migrate WC instance on the primary node with the migration wizard
 - Migrated application and WAS configuration is populated for you



Rollback scenarios

1. Rollback before new site in production
 - ♣ Production migration failed
 - ♣ Production migration took longer than expected
 - ♣ Migrated site failed QA test
 - ♣ Unexpected functional issues
 - ♣ Scalability and performance problems
 - ♣ Integration with other systems failed
2. Rollback after new site in production
 - ♣ Insufficient QA test before put migrated site on line
 - ♣ Options to process new production data
 - ♣ Process new transactional data manually
 - ♣ Port back new transactional data to old database

Minimum downtime and rollback

- Reduce downtime with optimized process (hours)
 - Perform migration of application while production site is running
 - Shutdown production site to migrate database as the final step
 1. Shutdown production site
 2. Backup production database
 3. Migrate production database in place
- Roll back before new site in production
 - Previous application is not modified by migration tools
 - Only database has to be restored
- Whitepaper for minimum downtime
 - http://www.ibm.com/developerworks/websphere/library/techarticles/0609_yuan/0609_yuan.html

