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IBM PRESENTATIONS:

WebSphere Commerce installation,
configuration and migration





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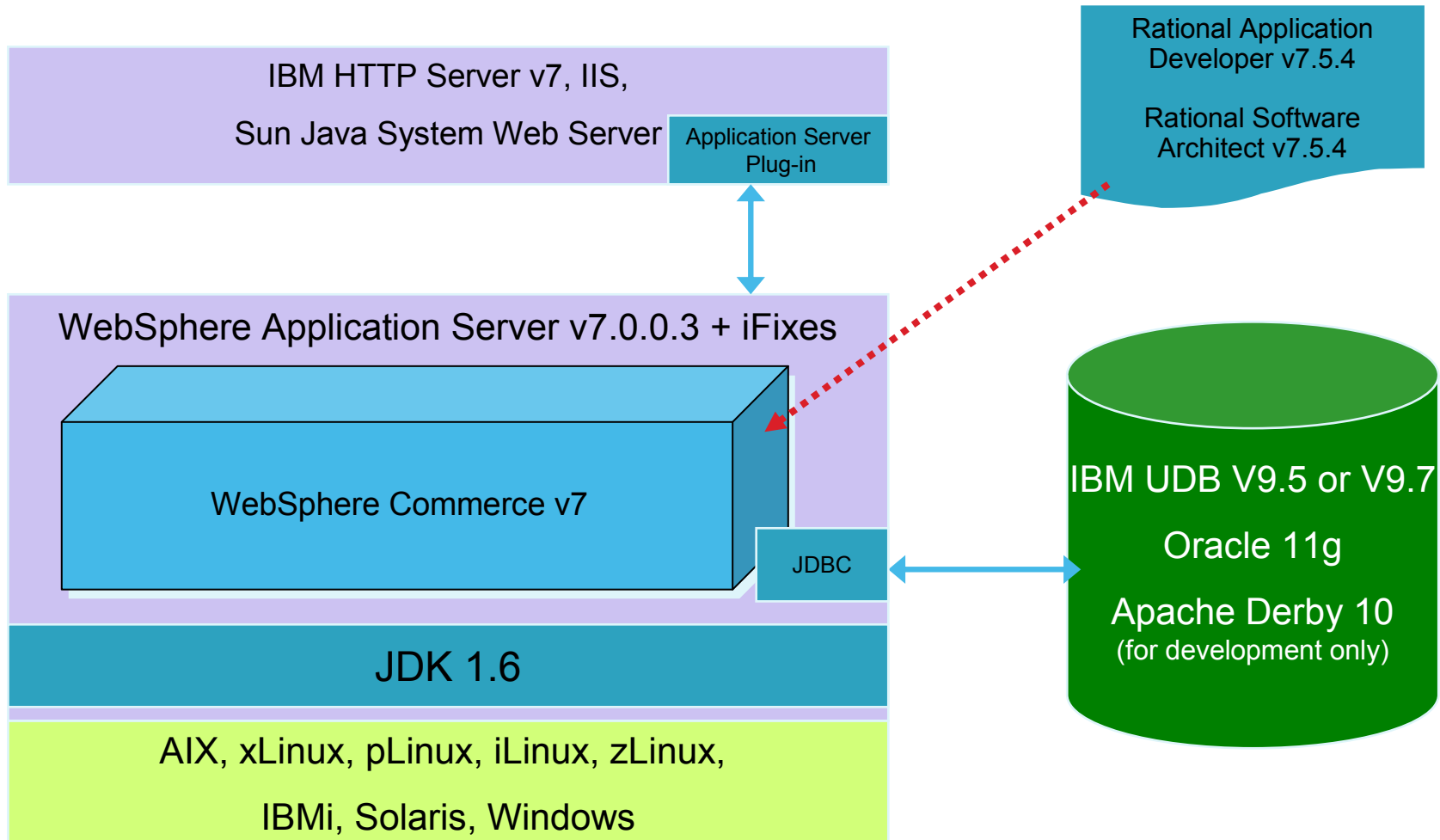


V7 Deployment Overview

- Deployment Architecture
 - V7 Software Stack
 - Topology of different environments
 - Deployment flow
- Lifecycle & migration
 - Planning, test migration & production migration
 - Documentation and tooling
 - Custom asset migration
 - Management Center migration in V7 and the next release
 - Cluster migration
- Backup

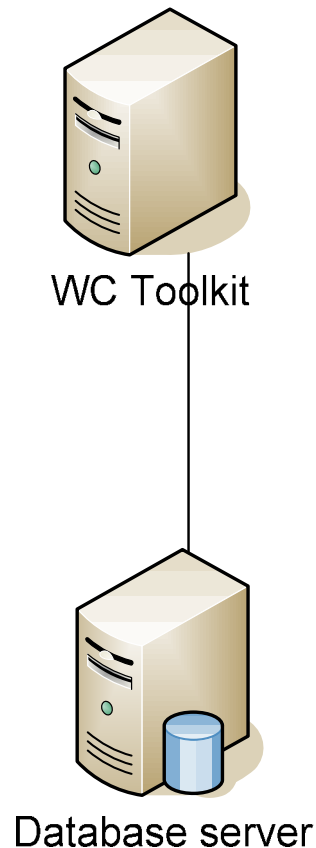


WebSphere Commerce Software Stack (V7)





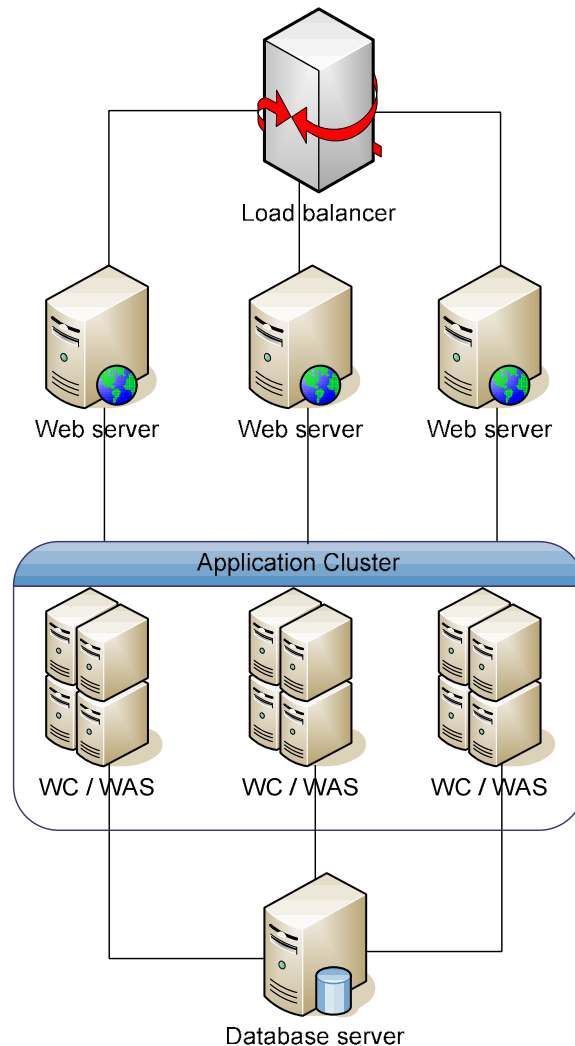
WebSphere Commerce Developer



- Database
 - ✓ Derby
 - ✓ DB2 on AIX, Linux (x/p/i/z), Solaris, Windows
 - Oracle on AIX, Linux (x/p/i/z), Solaris, Windows
- Custom code in workspace
 - ✓ Rational Application Developer (RAD)
- Custom code tested in WTE
 - ✓ WC test server
- Code repository integrated with RAD
- Topology
 - Local Derby, DB2 or Oracle
 - Remote DB2 or Oracle
 - Can be shared among developers



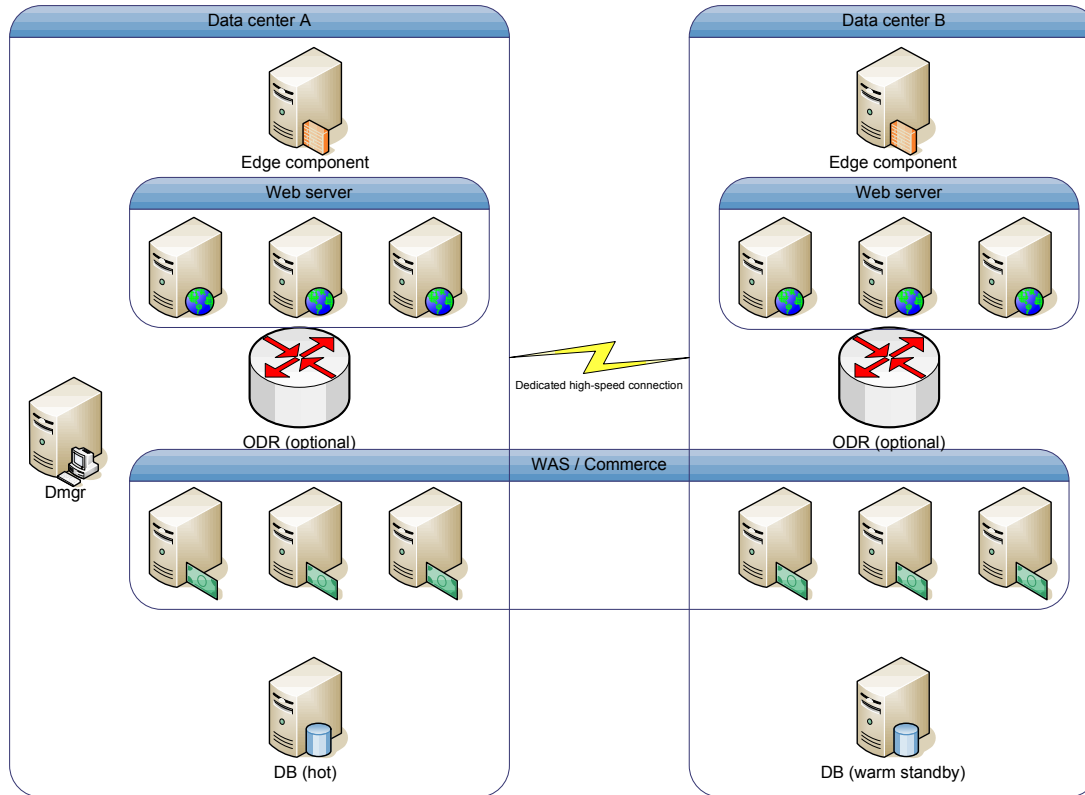
WebSphere Commerce Runtime



- Database
 - ✓ DB2 on AIX, Linux (x/p/i/z), Solaris, Windows
 - Oracle on AIX, Linux (x/p/i/z), Solaris, Windows
- Application
 - ✓ WebSphere Application Server
 - ✓ WebSphere Commerce
- Web server
 - ✓ IBM HTTP Server
 - IIS, Sun Java Web server
- Editions
 - Express, Professional Edition & Enterprise Edition
 - No clustering on Express
- Topology
 - 1-tier, 2-tier, 3-tier
 - Stand-alone, clustered in all 3 tiers
 - DB2 PureScale, Oracle RAC



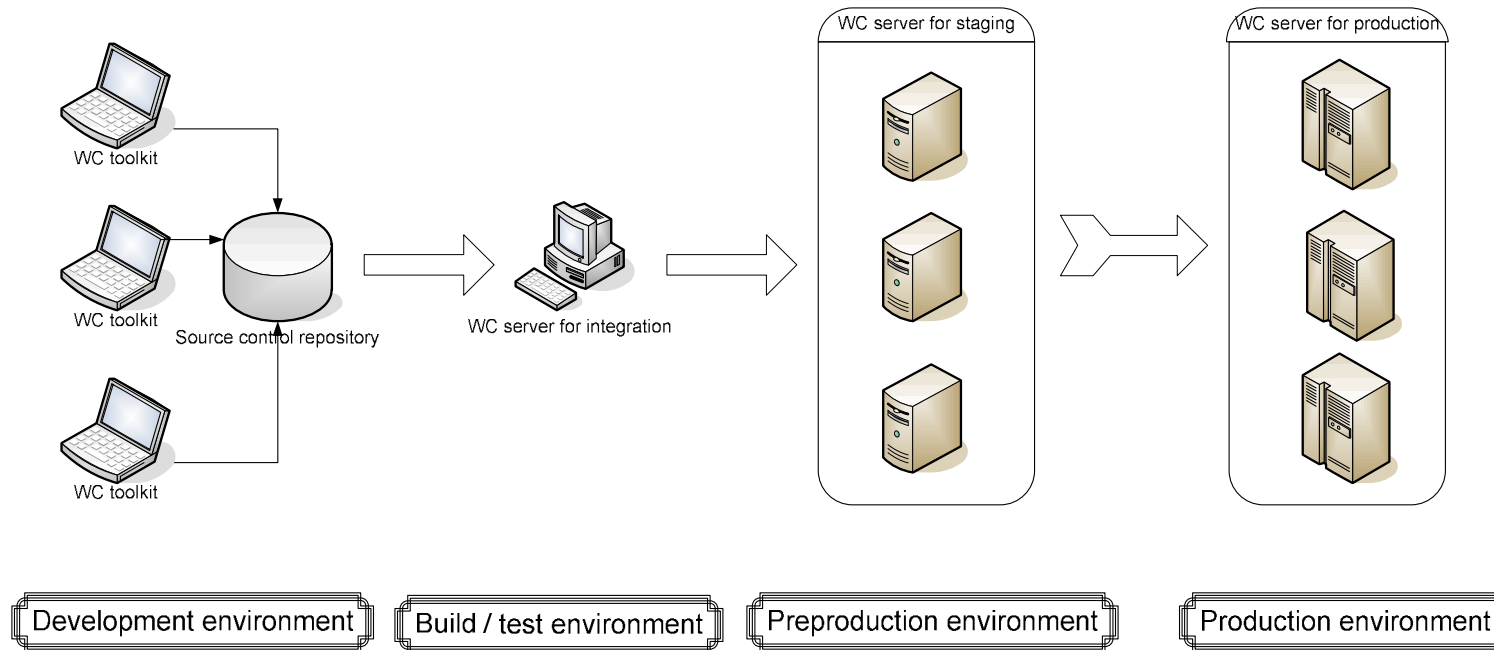
Dual Data Center



- Data centers are usually close (< 100 miles apart)
- Dedicated fiber links between data centers
- Shared deployment manager (i.e. Cluster members are in the same cell)
- Database is configured as active / passive (e.g. DB2 HADR)



Deployment Flow

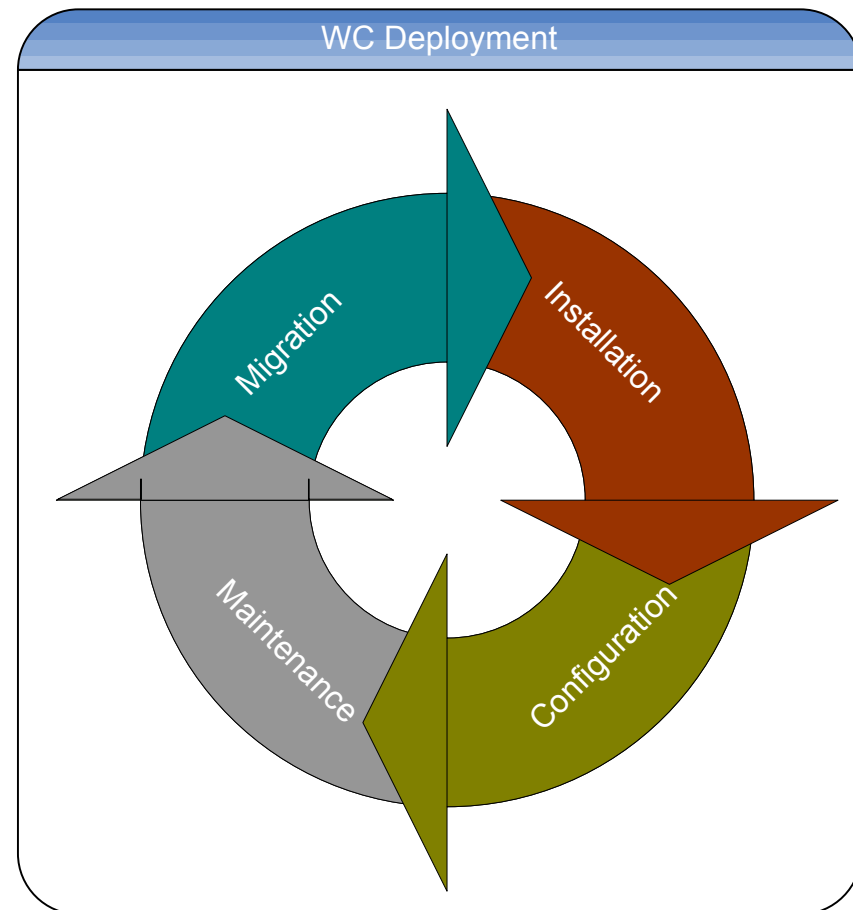


- **Development:** implement, unit test, source control
 - WC toolkit, 3rd party source control repository
- **Build & test:** build, deploy, functional test, system test
 - WC runtime, WAS, DB2, IHS, etc.
- **Preproduction:** staging, authoring
- **Production**



Lifecycle of WebSphere Commerce

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





WebSphere Commerce Migration Roadmap (V7)

WC migration is enhanced significantly in V6 and V7

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

WebSphere Commerce V5.6.1

- Scenario-based migration process: in-place, switch-over, co-existence
- Many command line scripts
- Total: up to 11 steps

WebSphere Commerce V6

- Database, application, Web server tiers
- Test & production migration phases
- GUI migration wizard
- Total Steps: 4

WebSphere Commerce V7

- Preserving customization in WAS
- Preserving custom modules in EAR
- Compatibility and extensibility
- Total Steps: 3

WebSphere Commerce future release

- One migration tool for WebSphere family
- Near zero down time
- Total Steps: 1



Incremental Enhancements

Note: This page has pre-release information and it is subject to change or withdrawal without notice.



Direct Migration Paths

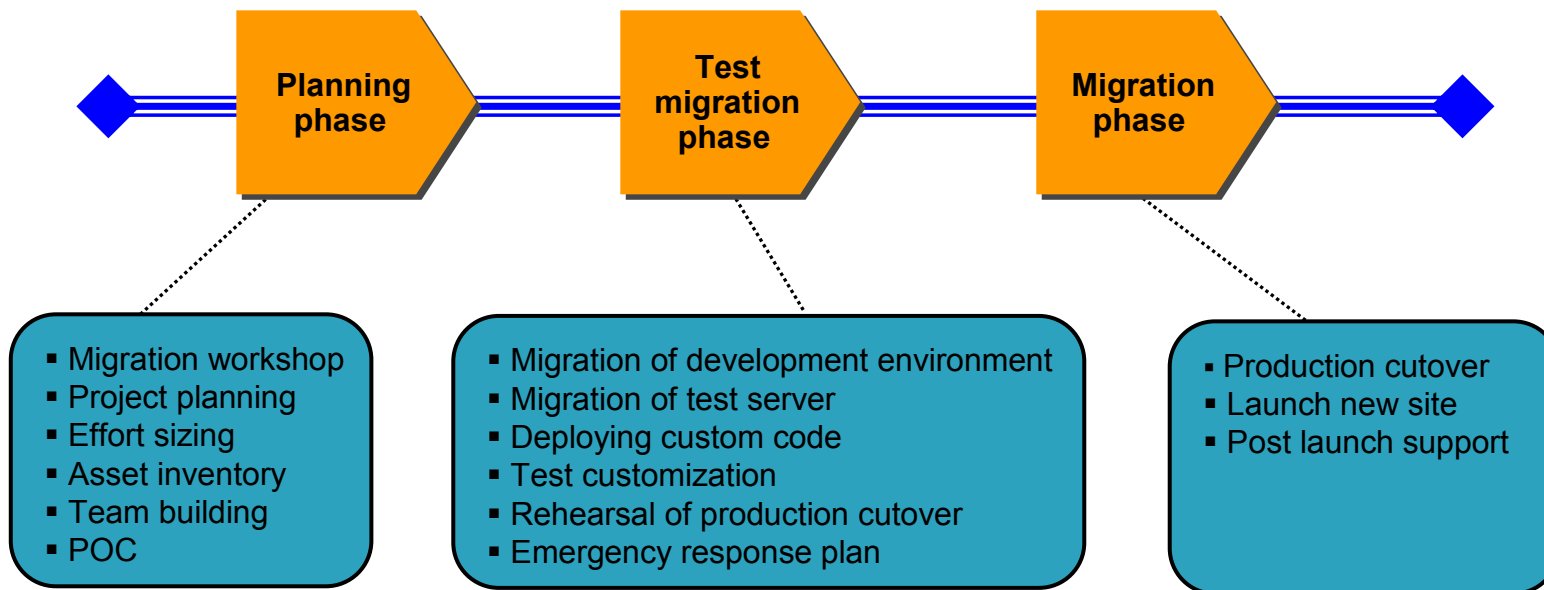
- **Version**
 - 5.6.1 → 7.0
 - 6.0 → 7.0
 - 6.0 + any combination of FEPs → 7.0
- **Edition**
 - Transparent upgrade to a higher edition during migration
 - Express → Professional
 - Express → Enterprise
 - Professional → Enterprise
- **Deprecation policy**
 - Feature deprecation: 5 years or 1 major release, whichever is longer
 - Schema and API follow the same policy
- **5.6.1 end-of-service in Sept. 2010**
 - Purchase extended support
 - Run without support
 - Migrate to a new version

	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



Project Management Best Practices

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.



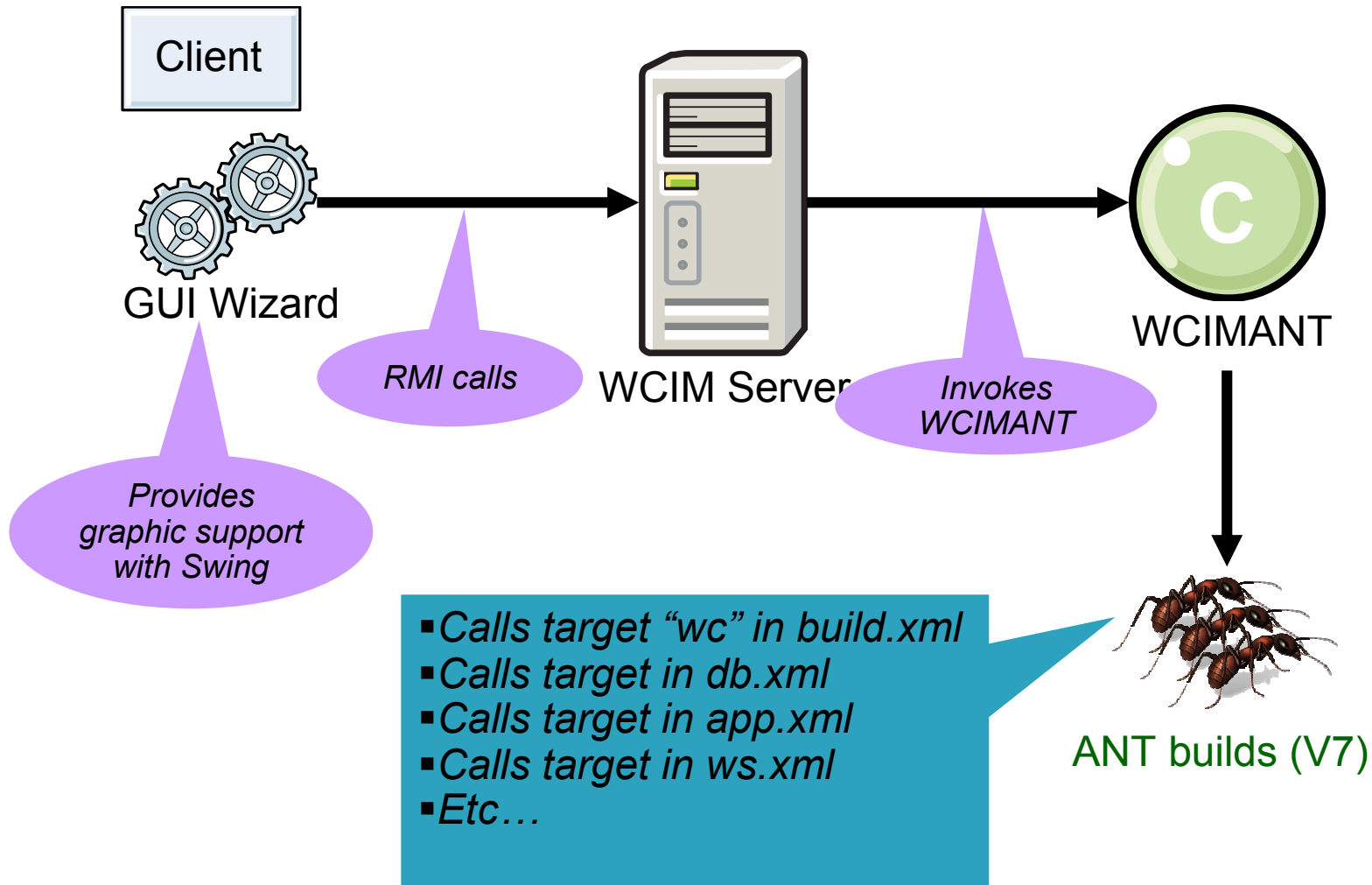
Migration InfoCenter

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

The screenshot shows a web browser window displaying the IBM Migration InfoCenter page for WebSphere Commerce Version 7.0. The page title is "Migrating from a previous version of WebSphere Commerce". The left sidebar contains a navigation menu with categories like Product overview, Installing, Migrating, Operating, Administering, and Troubleshooting and support. The main content area includes a "Show Me" button, a 10-minute presentation overview, and a "Changes in this release" section with links to "What's new in this release", "Database schema changes from version 5.6.1 to version 7.0", and "Summary of API changes from version 5.6.1 to version 7.0". The page is last updated on 04 January 2010.

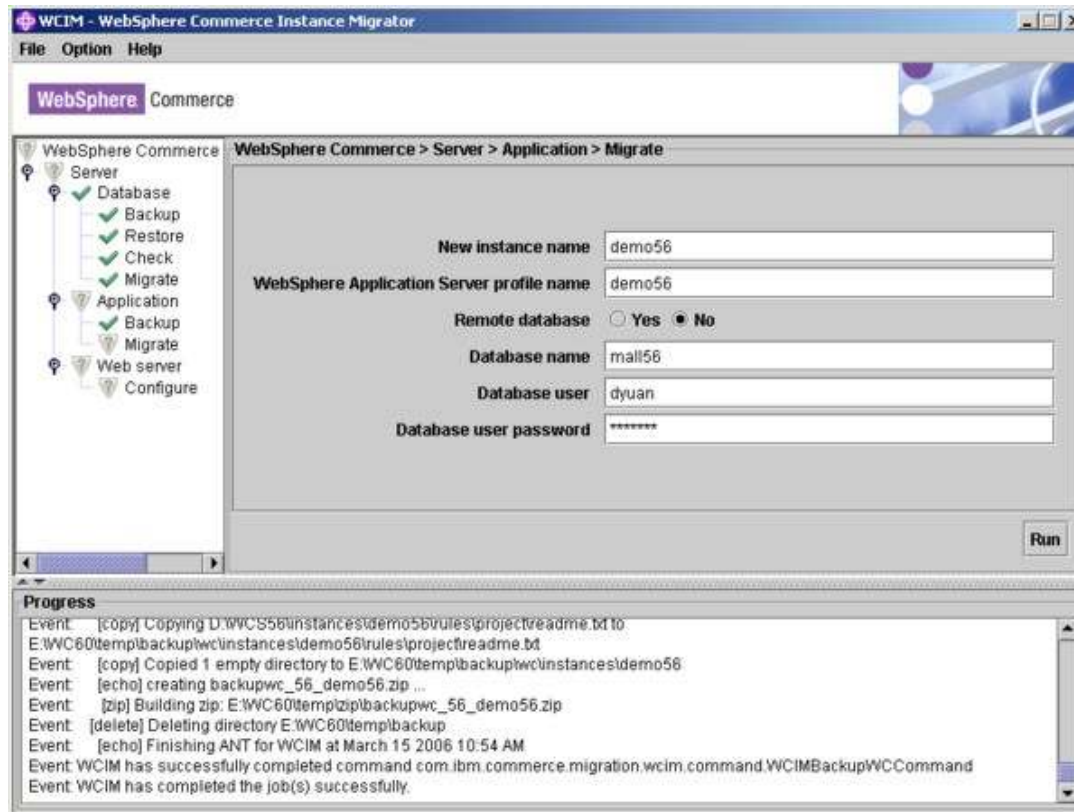


Migration Framework





Migration Wizard



- Migration wizard enforces migration phases and three tiers
 - Test & production migration phases
 - Database, application & Web server tiers
 - Guides you step-by-step
 - Protects your previous production environment
 - Migrates WAS configuration automatically (V7)
- You can mix the CLI and GUI (V7)



Custom Asset Migration

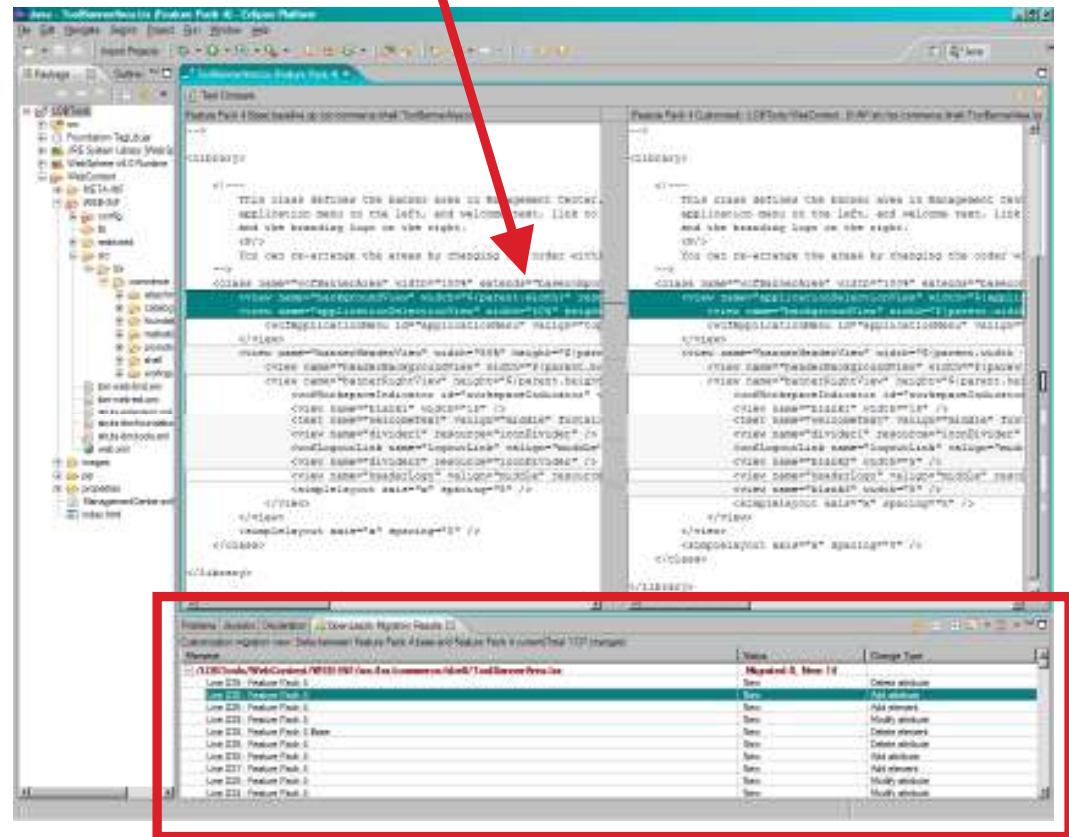
- Three major steps in V7
 - Migration in toolkit
 - Migration in runtime
 - Deploying custom code from toolkit to runtime
- Instructions on InfoCenter
 - Migrating > Migrating WebSphere Commerce Developer > Migrating custom assets
- Management center migration is part of the migration in toolkit
 - OpenLaszlo delta tool is integrated in the toolkit
- Non-EJB projects
 - Utilities and static Web projects
 - JSTL (5.6.1 only)
 - Commands and databeans
 - Management center (V6 FEPs)
 - Physical SDO (V6 FEPs)
- 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



Migration of Custom Code in Toolkit (V7)

- Management center needs to be migrated if customized
 - Migration to 7.0
 - 6.0 FEP3 → 7.0
 - 6.0 FEP4 → 7.0
 - Enablement in 7.0 FEP1 and FEPx
 - 7.0 → 7.0 FEP1
 - 7.0 → 7.0 FEPx
 - 7.0 FEP1 → 7.0 FEPx
- Migration of Management Center during enablement
 1. Enable FEPx in toolkit
 - Script migrates customized LOBTools project to FEPx
 - enableFeature.bat
 - Developer compares and merges customization manually
 - LOBTools Delta Tool in RAD
 2. Enable FEPx in runtime
 - Script backs up custom LOBTools WAR and replaces with OOTB LOBTools WAR in FEPx
 - config_ant.bat | sh
 3. Deploy migrated LOBTools

Highlight Delta in OL file that need to be migrated

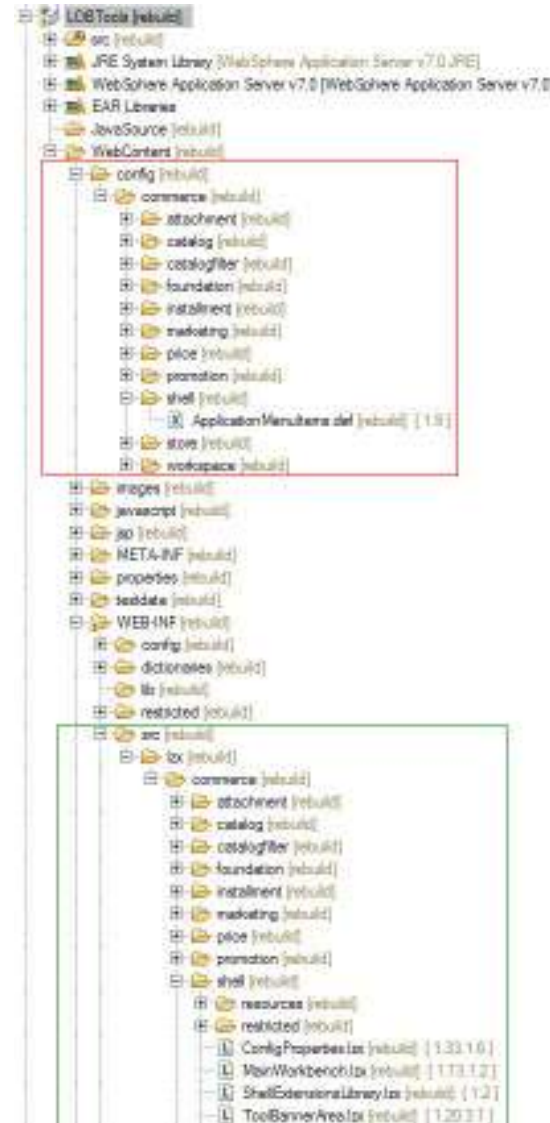
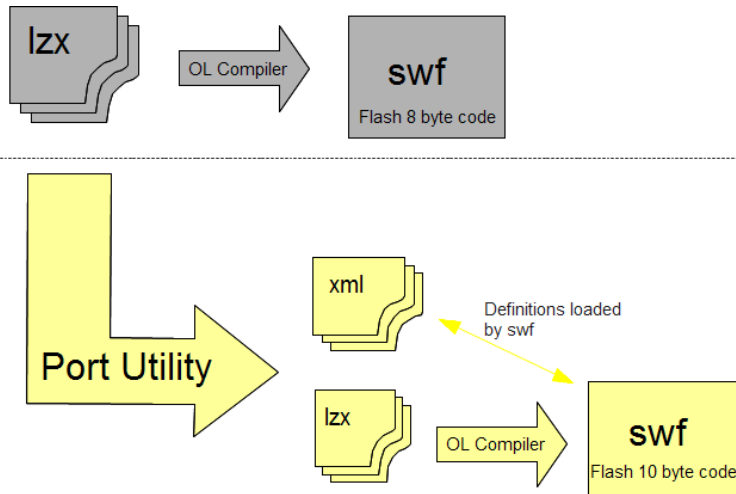


List all delta that needs to be migrated and provide suggestions on how to migrate



Improve CMC Performance on Flash 10 (future)

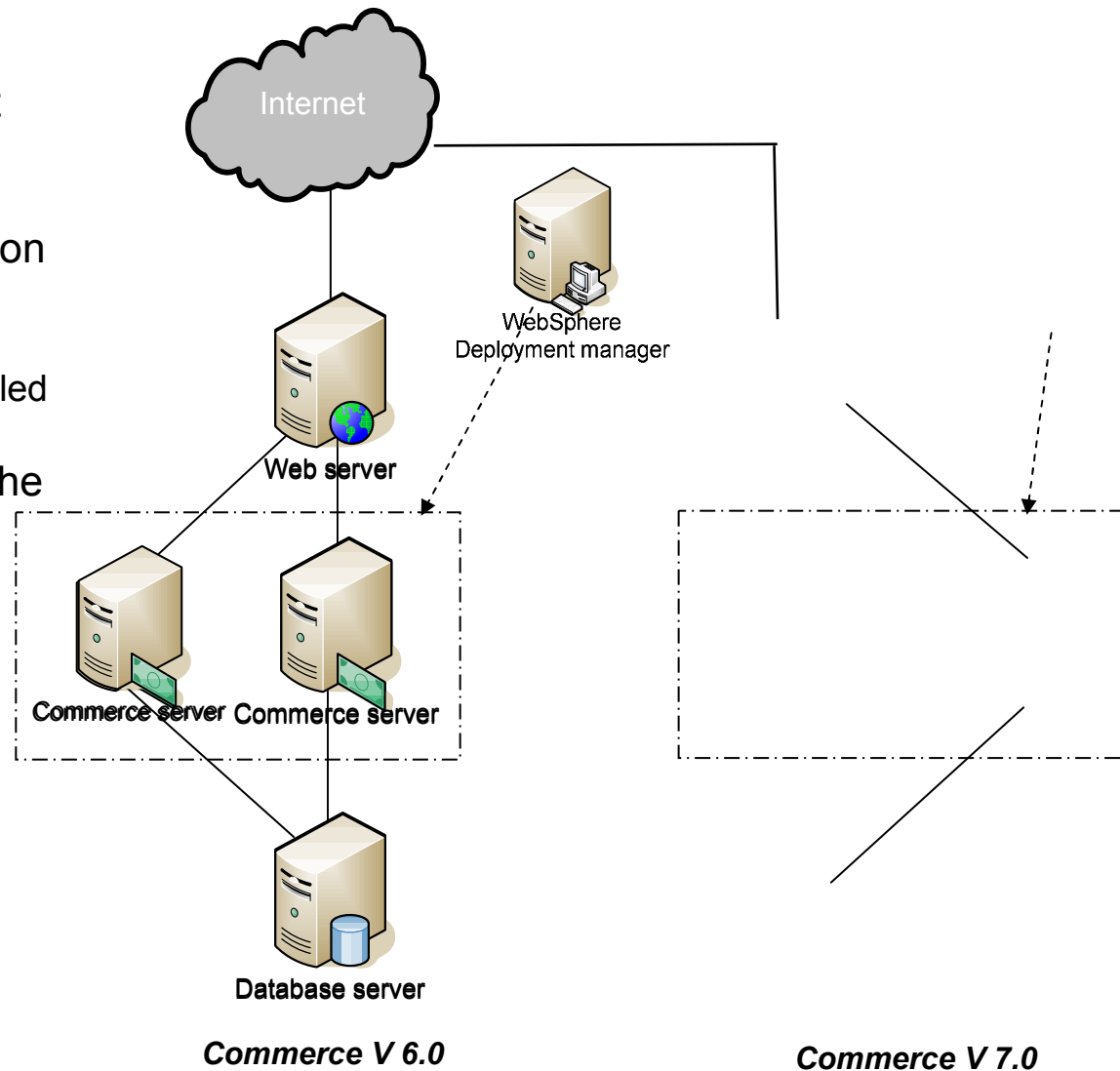
- The number of OL classes and the size of SWF become too big for OL compiler and Flash player
 - Turn most OL classes to XML documents (DEF files)
 - Update LOBTools delta tool to support both LZX files and XML documents





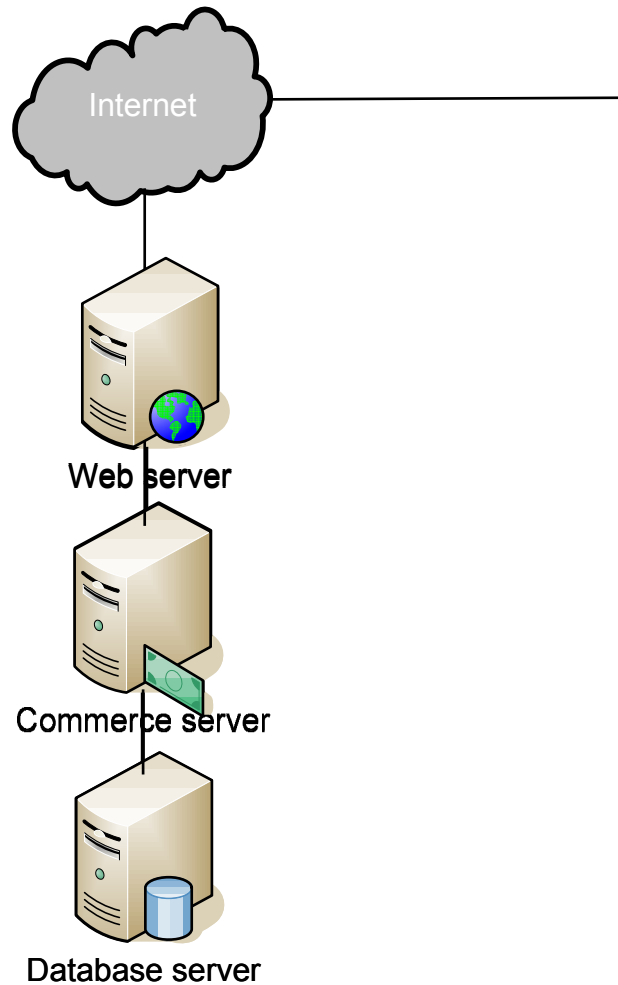
Migration in a Clustered Runtime Environment (V7)

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





Summary: Migration End-to-end



Commerce V 6.0

Commerce V 7.0

- Plan for the migration project
- Migrate development and test environments while production environment is running
 - Migrate WC toolkit
 - Migrate database
 - Migrate custom code in workspace
 - Test
 - Migrate WC runtime test environment
 - Migrate database
 - Migrate application & Web server
 - Deploy customization from toolkit to runtime
 - Test, test, test
- Migrate WC production environment
 - Shutdown production and backup database
 - Migrate three tiers and deploy customization
 - Perform sanity test
 - Launch the migrated site
 - Post-migration support



Backup

- InfoCenter
- Best practices
- Minimizing migration effort in the future
- Minimum downtime and rollback



Project Planning and Sizing Template (V7)

The screenshot shows the IBM WebSphere Commerce V7 help page. The main content area displays a table titled "Planning and sizing sample template". The table has six columns: Task, Sub Task, Estimated duration, Complexity, Owner(s), and Assumptions, Comments. The table is divided into two main sections: "Site analysis and preparation" and "Technical staff education".

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.				
	Review all custom scripts used for tasks such as build, deployment, or data load.				
	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.				
	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.				
Technical staff education	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.				
	Education on new development languages. For example, if you are a version 5.6.1 customer who wants to learn to customize the Management Center using OpenLaszlo.				

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)



Do's, Don'ts & Recommendation

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
Deprecation policy: 5 years or 1 release, whichever is longer
 - Data is migrated to the new version
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 be automatically transformed 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

Customers migrating in V7

- Programs to work with us closely
 - In development stage
Early feedback program: 0 customer
 - Before release
Beta Program: 1 US retailer
 - Shortly after release
Customer Acceleration Program: 3 customers in US and Europe
- Case study
 - Database, application & topology from another US retailer
 - Tested migration of toolkit, runtime with clustering
 - Uncovered defects and identified areas to be improved
 - Provided detailed report to the customer
Migrating to V7
- Many customers have migrated to V7
 - US and Europe
- Many more customers are migrating to V7
 - North America, Europe, Asian Pacific, etc.



How to minimize migration effort in the future

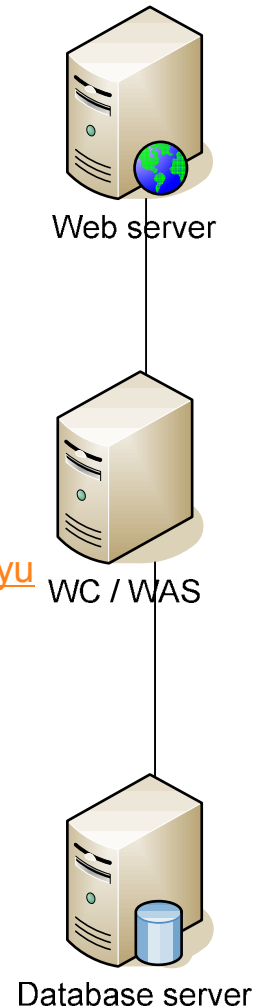
Minimize and simplify customization

- Make use of out-of-the-box features and functions whenever possible.
- Follow the recommended methodology to add customization. The extension points / APIs are designed to minimize the migration effort in the future.
- Avoid making source code level customization at all cost even if it is the prescribed methodology.
 - Do not update OOTB bootstrap data to change the runtime behavior directly.
 - Create new bootstrap data entry if possible.
 - Make sure to use the key range assigned to customers. For example, use positive member IDs for custom administrators.
 - Do not modify OpenLaszlo files to change CMC UI.
 - Create new panels in separate LZX files whenever possible.
 - Do not modify Java code in OOTB EJBs.
 - Create your own EJBs from scratch whenever makes sense.
- Avoid making use of deprecated features or APIs.
 - When they are removed in a future release, customers will be forced to move to a replacement. In some cases, there may not be a replacement at all.



Minimum downtime and rollback without Change Data Capture (CDC)

- 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
 - Shutdown production site
 - Backup production database
 - 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
- 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 with Replication (future)

- Data replication with transformation
 - Connect old and new sites with IBM InfoSphere CDC (Change Data Capture)
 - Two one-way replications with transformation
- Delta migration and rollback with CDC (minutes)
 - Perform general migration to build a new site based on the existing site
 - **Minimum downtime**
 - Replicate data from the existing site to the new site with CDC
 - Disconnect the existing site from the Internet and switch to new site
 - **Rollback**
 - Replicate data from the new site to the previous site with CDC
 - Disconnect the new site from the Internet and switch to the previous site

