

WebSphere software



# Enterprise Software Configuration Management With IBM WebSphere Studio Enterprise Developer

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All IBM's plans are subject to change without notice.

# Topics

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- Team programming: WSED vs. VisualAge
- SCM Providers For WSED
- Criteria for choosing an SCM
- Overview of team programming with:
  - ▶ CVS
  - ▶ ClearCase
  - ▶ SCLM
- Single repository for host and web development?

# Team Programming: WSED vs. VisualAge

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- Choice of repository provider
- Passive vs. active repository
  - ▶ All repository interaction initiated by developer
  - ▶ Much less repository traffic
  - ▶ Offline operation
- No common APIs for repository access

# Managed Resources

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- VisualAge
  - ▶ Projects
  - ▶ Packages
  - ▶ Files (VAJ)
  - ▶ Methods  
(VAJ)/Parts(VAG)
- Workbench
  - ▶ Projects
  - ▶ Folders
  - ▶ Files

# Version Control Manager 1 (WebSphere Studio Application Developer, Release 1)

- Java interface defined
- Optimistic approach
- Used CVS as proof point
- Prescriptive approach

# Version Control Manager 2 (WSED)

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- Allows for optimistic as well as a pessimistic approach (check-out/alter/check-in)
- Using CVS implementation as proof point
- Allows more freedom of implementation for adapters
- Allows unique strengths of the individual SCM to show through

# Choice of Repositories:

## VCM 2 Adapters

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- Included in WSED
  - ▶ Concurrent Versions System (CVS)
  - ▶ SCLM
- Available
  - ▶ Rational ClearCase LT\*
  - ▶ Rational ClearCase
- Coming Soon
  - ▶ Merant PVCS
  - ▶ StarBase StarTeam

\*SCM included with WSED

# CHOICE OF REPOSITORIES:

## VCM 2 Adapters

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- In development
  - ▶ CA CCC Harvest
  - ▶ Minerva Change
  - ▶ MKS Source Integrity Enterprise Edition
  - ▶ Serena ChangeMan DS
  - ▶ Telelogic AB's CM Synergy



# Repositories - z/OS Requirements

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- Known requirements for z/OS
  - ▶ CA-Endevor
  - ▶ CA-Librarian
  - ▶ CA-Panvalet
  - ▶ Serena ChangeMan for z/OS
  - ▶ CIG Cloud 9 (front end for SCLM)

# Evaluating Repositories

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- Server platform
- Locking paradigm: pessimistic or optimistic
- Versioning paradigm: tag or promotion
- Long names > eight characters
- Speed
- Cost
- Repository or workbench build
- What repository am I using now?

# Comparing Repositories

Repository:	Location:	Locking:	Versioning:	Long Names:	Speed:	Cost:
CVS	Windows, Unix	Optimistic	Tag (Version)	Yes	Fast	Open Source
ClearCase LT	Windows, Unix, Red Hat Linux	Pessimistic	Tag (Baseline)	Yes	Medium	Shipped With WSED
ClearCase	Windows, Unix, Red Hat Linux, zSeries with SuSe Linux	Pessimistic	Tag (Baseline)	Yes	Medium	\$\$
SCLM	z/OS	Pessimistic	Promotion	No	Medium	\$\$

# ClearCase Vs ClearCase LT

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- Advanced build support
- Multi-site servers
- Dynamic views (no copy of file in workspace unless checked out)
- Deployment integration with IBM Websphere Application Server

# CVS Terminology

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Term:	Meaning:
Repository	Repository
Head	Main stream of repository changes
Branch	Alternate stream of repository changes starting from a version
Revision	A changed file committed to the repository. The revision is assigned a unique identifier
Version	A set of file revisions identified by a version tag
Share	Put project under repository control
Checkout	Load project from repository
Update	Update project from repository
Commit	Write changed file to the repository
Synchronize	Compare current file to repository file
Tag As Version	Tag latest revisions in branch with version tag

# STANDARD WORK FLOW WITH CVS:

## Optimistic Locking

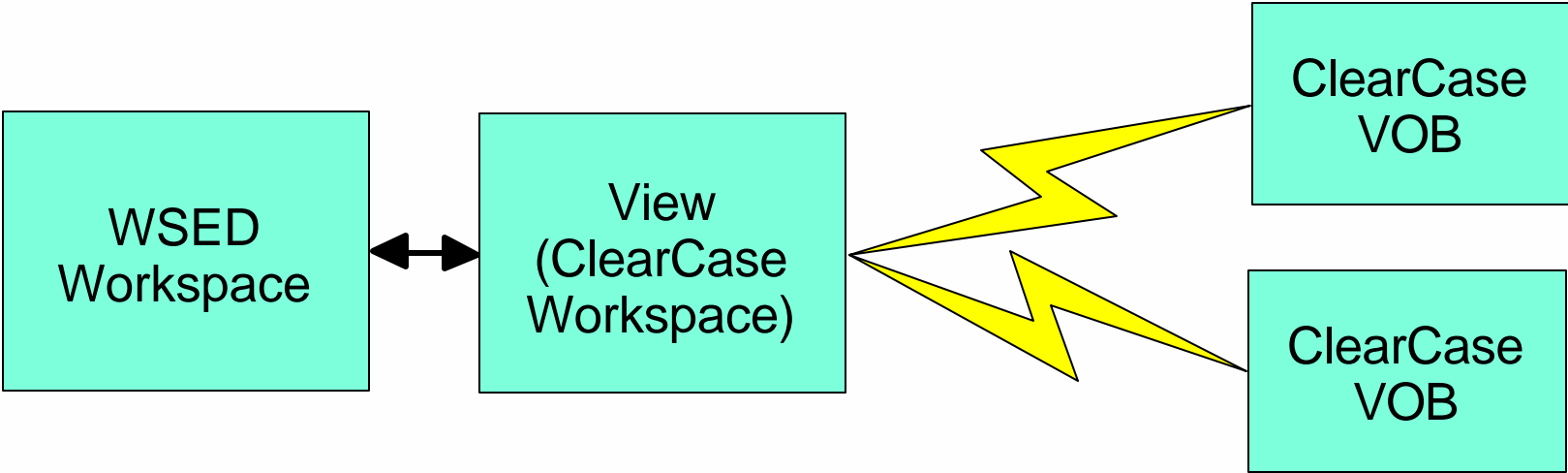
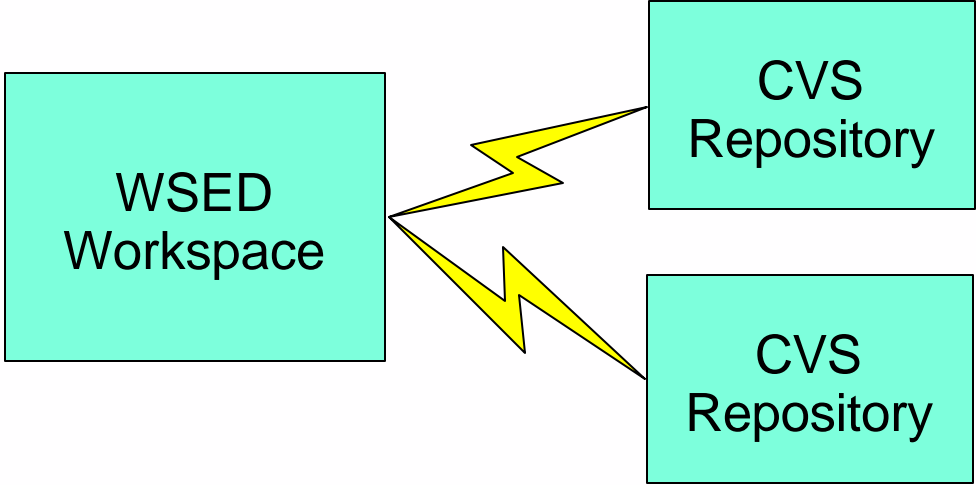
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- Checkout (load) or update project
- Change local files and test
- Synchronize project with repository
- Retest if merge required
- Commit changed files to repository
- Tag project with version tag at project checkpoint

# CVS vs. ClearCase Terminology

CVS Term:	ClearCase Term:
Repository	Version Object Base (VOB)
	View - ClearCase workspace
Head	Main
Branch	Branch
Revision	Version
Version	Baseline
Share	Add To Source Control
Checkout	File > Import > Existing Project Into Workspace
	Check Out - Get current copy of file and lock
Update	Update
Commit	Check In
Synchronize	Compare With Previous Version
Tag As Version	Apply Label Wizard

# CVS vs ClearCase Configuration





# CVS vs ClearCase User Interface

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	CVS	ClearCase
Working With Projects and Files	Navigator Context Menu: Team	Navigator Context Menu: Team
Working With Repositories	CVS Perspective	ClearCase Menu ClearCase Explorer

## Pessimistic Locking

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- Define a ClearCase view identifying folders required for your project
- Import or update folders in the view
- Check out (lock) files you want to change
- Change files and test
- Check in changed files
- Create baseline at project checkpoint (ClearCase Apply Label Wizard)

# SCLM Adapter

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- Designed for
- z/OS perspective for COBOL and PL/I development
  - ▶ Remote access to files in PDSs
- Team programming process comfortable for ISPF users
- Supports:
  - ▶ Build by SCLM on z/OS
  - ▶ Remote debug

# SCLM Functions

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- Connect
- Add Projects To Workspace
- Add Member To Repository
- Browse File
- Edit File (Check Out)
- Save File (Check In)
- Unlock File
- Delete File From Repository
- Delete Resource From Workspace
- Promote
- Build

## Question:

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Do I want to use the same source control manager for COBOL/PL/I and Web/Java/EGL development?

# Opinion: SCLM Not For Java Or EGL

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- Eight character names
- SCLM setup required for partitioned data sets for projects
- Designed to work with z/OS perspective
- Interfaces familiar to z/OS developers
- Use for COBOL, PL/I projects

# Opinion: For Now, Plan For Two SCMs

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- COBOL/PL/I on non-z/OS responsitory is unknown territory
- Developers are different
- Development process is different
- Build process will always be different
- z/OS tools designed with SCLM in mind
- Wait for SCM that delivers both host and non-host processes

# Where To Find Information On Repositories

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- Links to team repository providers:
  - ▶ [www.eclipse.org/community/plugins.html](http://www.eclipse.org/community/plugins.html)

- CVS

- ▶ CVS Organization Home Page:
- ▶ Version Management With CVS:  
[www.cvshome.org/docs/manual](http://www.cvshome.org/docs/manual)
- ▶ WSED Help,  
Application developer information,  
Team Programming With CVS

[www.cvshome.org](http://www.cvshome.org)



# Where To Find Information On Repositories

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- Rational
  - ▶ ClearCase:  
[www.rational.com/products/clearcase/index.jsp](http://www.rational.com/products/clearcase/index.jsp)
  - ▶ ClearCase VCM 2 Adapter:  
[www.rational.com/support/downloadcenter/addins/clearcase/plugins/index.jsp](http://www.rational.com/support/downloadcenter/addins/clearcase/plugins/index.jsp)
  - ▶ Rational ClearCase Integration With IBM WebSphere Studio, Rational Software White Paper TP731A 9/02
  - ▶ WSED Help, Rational ClearCase (after plugin is installed)
- SCLM
  - ▶ WSED Help, Enterprise Developer Information, SCLM User Manual