Introduction

ComponentSoftware RCS (CS-RCS) is a powerful and robust document revision control solution. CS-RCS monitors changes made in files that are accessed by standalone or networked workstations. Based on the widely used GNU RCS, it is fully integrated with Windows 95 and Windows NT. CS-RCS supports multi-platform workgroups, making it the ideal solution for sites that share common files on UNIX and Windows platforms.

ComponentSoftware RCS is based on revision 5.7 of GNU RCS. GNU RCS was developed by the GNU project and is currently used by thousands of users, mainly in the UNIX environment. GNU RCS has an old-fashion command-line user interface, but ComponentSoftware RCS has a modern user-friendly graphical user interface that is fully integrated with the Windows Explorer and shell. This combination of tested power and ease-of-use brings full RCS mastery to your fingertips.

Why Use an RCS?

A Revision Control System (RCS) helps you manage multiple revisions of files by keeping a complete history of the changes performed to the files. This allows you to see how and when a file was changed, or to quickly return to a previous revision of a file. This can be crucial for files that are edited frequently such as programs, word-processor documents, and HTML documents.

How ComponentSoftware RCS Helps You

ComponentSoftware RCS allows you to:

- ***Retrieve any revision by any criteria anytime***. Each revision is marked with a unique revision number, revision date, author name, optional symbolic name, and descriptive comment.
- ***Conveniently see what was changed between any two revisions.*** You can study the evolution of a function throughout its lifetime.
- ***Never lose any work because you can always backtrack.*** This is critical when there is a deadline and the last revision worked better.
- ***Work with binary files.*** You can maintain revisions of binary files such as MS-Word documents, pictures, drawings, etc..
- ***Save disk space.*** Since only the differences between revisions are saved, the archive file size is kept to the minimum size.

In a workgroup environment, ComponentSoftware RCS additionally allows you to:

- ***Know who does what and when.*** This simplifies communication between users, and smoothes out the whole development process.
- ***Avoid two users modifying the same file at the same time.*** ComponentSoftware RCS maintains a "lock" for each file.
- ***Know when there is an updated revision of a shared document.*** ComponentSoftware RCS notifies you whenever a coworker checks-in a new revision.
- ***Use variety of servers and networks.*** Any file server can be used to keep the RCS archive files. Network connection can be LAN, corporate wide-area network, dial-up connection and the **Internet**.

ComponentSoftware RCS was designed to handle UNIX machines and Windows machines using the same RCS archive repository. In a multi-platform environment, ComponentSoftware RCS additionally allows:

- ***Users on UNIX and Windows machines to share common files.*** This option increases reusability and stability of products that target both UNIX and Windows platforms.
- ***Transparently convert text files UNIX-to-DOS and DOS-to-UNIX.*** ComponentSoftware RCS takes care of the line-break sequence that is different for UNIX and Windows/DOS files.

Introduction

This brief tutorial shows you how to perform the basic tasks you need to use ComponentSoftware RCS. We recommend you follow this tutorial through from start to finish. The tutorial takes about 10 minutes.

Next

Basic Concepts

The ComponentSoftware RCS Repository keeps track of the various revisions of your files. Each file you want to keep track of must be added to the Repository. Whenever a file receives a significant revision, it should be added again to the Repository so that anytime in the future you can go back to that revision of the file. Adding a file again to the repository is called *checking-in* a file.
When you want to edit a file, you should take the latest revision of the file out of the Repository. This way you can make sure you have the file in its correct form. This is called *checking-out* the file.

Next

Set Yourself Up

Before we begin, prepare a sample file:

- Create a new text file named TEST.
- Open Notepad and type a few lines.
- Save the file.

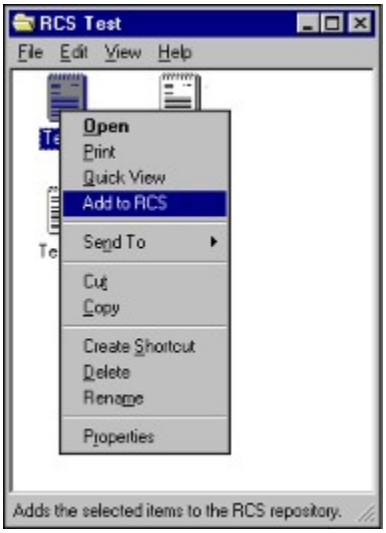
Next

Add a File to the CS-RCS Repository

To have ComponentSoftware RCS keep track of your file, you must add the file to the Repository. Add TEST.TXT to the Repository:

- View TEST.TXT in Windows Explorer.
- Click on the file with the right mouse button to open the context menu, and choose **Add to RCS**.

The current revision of TEST.TXT is added to the Repository.

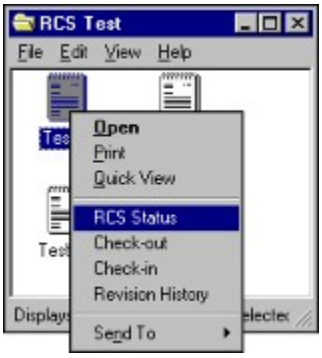


Next

View the Changes to a File

You can check whether a file has been changed since it was last added to the ComponentSoftware RCS Repository. If the file has been changed, you can see the changes. Check whether TEST.TXT has changed since you last added it to the Repository:

- View TEST.TXT in Windows Explorer.
- Click on the file with the right mouse button to open the context menu, and choose **RCS Status**.



The following message appears:

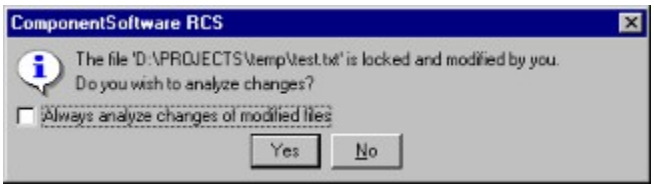
The message indicates that TEST.TXT has not been changed since you last added it to the Repository.

Note: As long as TEST.TXT is unchanged, the *Check-out* and *Check-in* menu entries are disabled. (If you are in a workgroup environment, the *Check-out* menu entry is enabled for unlocking the document.)

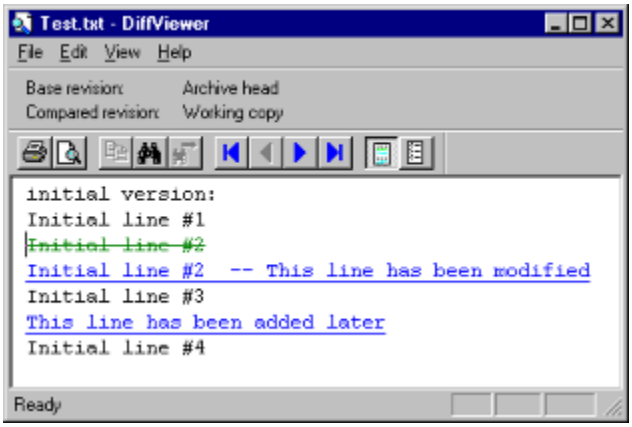
Change TEST.TXT and then check again whether TEST.TXT has changed since you last added it to the Repository:

- Using Notepad, add a few lines to TEST.TXT.
- Invoke **RCS Status** again.

The following message appears:



The message indicates that TEST.TXT has been changed since you last added it to the Repository. If you click **Yes**, a list of the differences between the last version you added to the Repository and the current file appears.



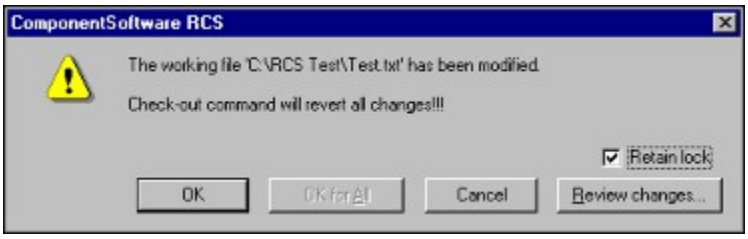
Next

Check-out the Latest Revision of a File

At any time, you can undo all changes you have made since you last added a file to the Repository. This is called *checking-out* a file, and effectively returns the file to how it was when it was last added to the repository. Check-out TEST.TXT:

- View TEST.TXT in Windows Explorer.
- Click on the file with the right mouse button to open the context menu, and choose Check-out.
- Select OK.

TEST.TXT returns to its original revision.



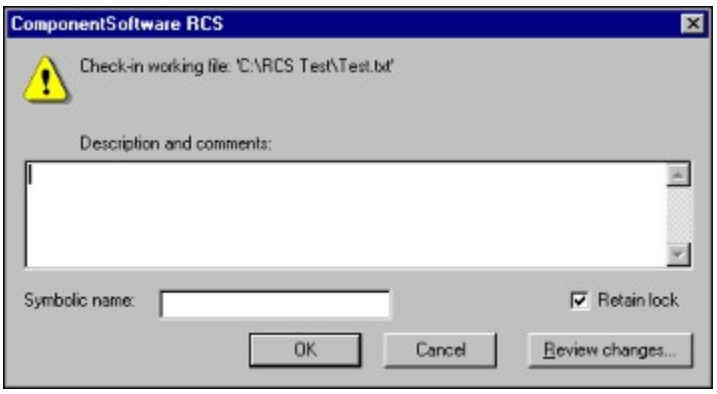
When the Check-out dialog box is open, you can see what was changed since the last revision by pressing **Review Changes**. If you are in a workgroup environment, when you check-in or check-out a file, nobody else can check-in or check-out the same file. If you want other users to be able to check-in or check-out the file, uncheck the **Retain Lock** option.

Next

Check-In a New Revision

As mentioned above, whenever a file has been significantly edited, it should be reentered into the Repository, or *checked-in*. Edit TEST.TXT and check it in:

- Use Notepad to edit TEST.TXT.
- View TEST.TXT in Windows Explorer.
- Click on the file with the right mouse button to open the context menu, and choose Check-in.
- Fill in the Description and comments. Use a symbolic name to emphasize major revisions. Symbolic names cannot include spaces.
- Press OK.



When the Check-in dialog box is open, you can see what was changed since the last revision by pressing **Review Changes**. If you are in a workgroup environment, when you check-in or check-out a file, nobody else can check-in or check-out the same file. If you want other users to be able to check-in or check-out the file, uncheck the **Retain Lock** option.

> ***Tip:*** *When checking in a new revision, press Review Changes and copy and paste sections into the Description and Comments field. This will help you keep track of the changes in that version.*

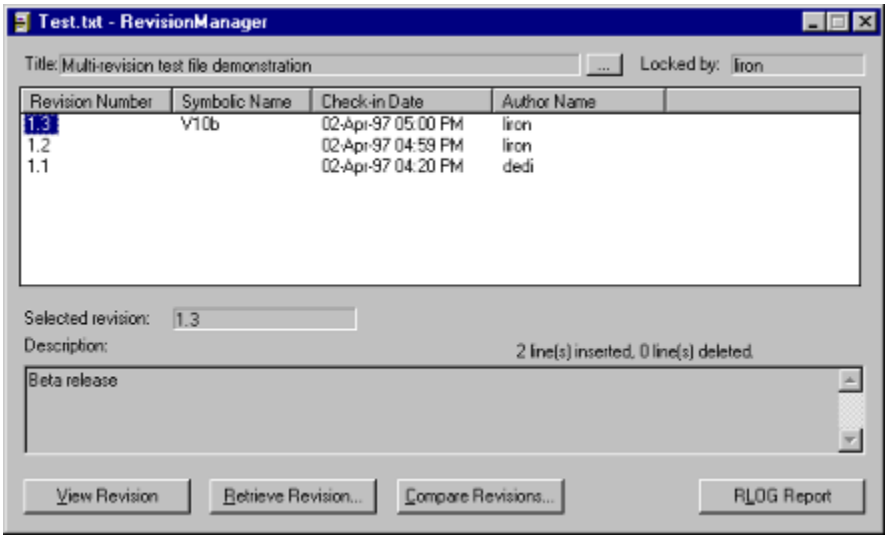
Next

View the Revision History of a File

At any point, you can view a list of the revisions of a file. You can then compare the revisions to one another, and revert to an earlier revision. View the revisions of TEST.TXT:

- View TEST.TXT in Windows Explorer.
- Click on the file with the right mouse button to open the context menu, and choose **Revision History**.

The various revisions of TEST.TXT are displayed. You can sort the list as you wish by clicking on the desired column header. Click again on the same column header to reverse the sort order.



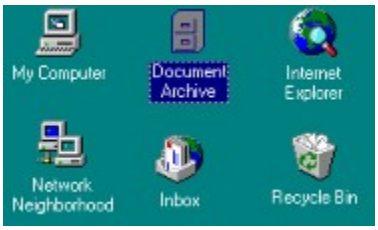
This dialog box gives you many options:

- Select any revision on the list to view the revision's description and comments. Click the right mouse button to edit the revision information.
- Press **View Revision** to view the selected revision.
- Press **Retrieve Revision** to save the selected revision to disk.
- Press **Compare Revisions** to view the changes done between the selected revision to any other revision or the working copy.
- Press **RLOG Report** to view a detailed change report for the file.
- Press **…** to set the document title and description.

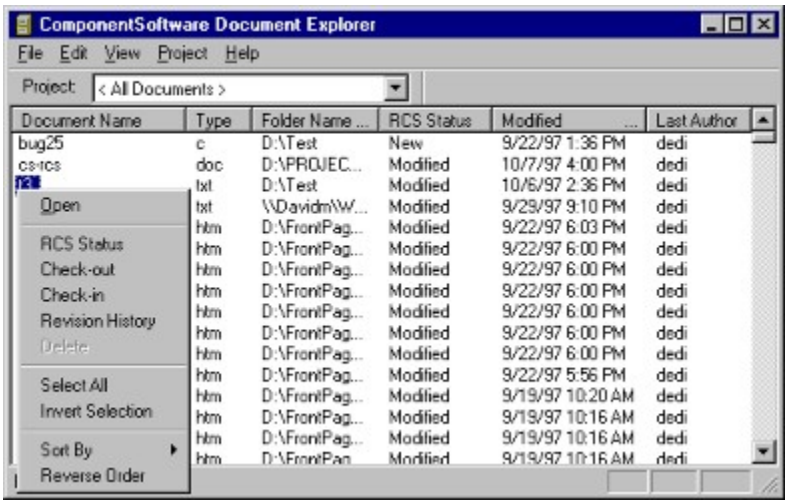
Next

View the Global Picture

ComponentSoftware RCS adds a special icon to your desktop called the *Document Archive*.



At any point, you may activate the *Document Explorer* by double-click on the *Document Archive* icon. Choose *Project* and then *Scan New Files* to scan the RCS repository for new files.



You can see the major properties of your document:

- Document name, type and Folder
- Document archive status.
- The last time the document has been checked-in or modified
- The last author of the document.

You can sort the list as you wish by clicking on the desired column header. Click again on the same column header to reverse the sort order. You may click on a document with the right mouse button to open the context menu and apply any RCS command.

The Document Status property gives you the exact state of the document:

- *Locked* – You may change the document. (In a workgroup environment, nobody else may change it.)
- *Modified* – You have changed the document. It is recommended to check-in the document whenever it receives a significant revision.

In a workgroup environment, a document may have the following states as well:

- *Archived* – The document is archived. Nobody may change it. (The working copy has a

read-only permission.)

- *Blocked By…* – A partner had locked the document. Nobody else may change it till the lock is released.
- *New* – The document exists in the archive but not in your working directory. You may check-out the document in order to get the current revision.
- *Updated* – The document has been updated in the archive. You should check-out the document in order to get the current revision.

Note: Project-level commands are discussed later on this manual.

Next

Thank You

Now you have the basic skills necessary to take advantage of the power of ComponentSoftware RCS. Thank you for participating in this tutorial.

Invoking the Context Menu

The context menu can be invoked in several ways:

- Click on the file with the right mouse button.
- Select the file, and then open the Explorer *File* menu.
- If you have a Windows 95 keyboard, select the file and then press the key near the right Ctrl key.

Tip: You can invoke the context menu from the Windows *File Open* dialog box.

Multiple File Operations

Sometimes, it is convenient to perform an operation on several files at once. For instance, if you have edited several files related to the same product release, they can all be checked-in at one time. This gives all the files the same check-in information.
To perform a multiple file operation:

- Select all the related files or folders.
- Invoke the context menu and choose the desired option.

Examples:

- Right-click on a working folder and choose *RCS Status* to evaluate the status of all files within a working folder tree.

- Use the Windows Explorer *Find* command to get a list of files that match certain criteria. (For instance, all include files in a project.) Select the desired files within the list and apply any RCS command.

CS-RCS Properties

CS-RCS has been designed for quick-start operation, but many of the CS-RCS properties can be customized. To access the CS-RCS Properties setup program either:

- Right click on the *Document Archive* icon on the desktop and select *Properties*.
- Invoke the Explorer *Start* menu, and select *Programs*|*CS-RCS*|*Properties*.

CSDiff File Comparison Utility

CSDiff is a stand-alone folder and file comparison utility included with CS-RCS. To activate CSDiff, create a desktop shortcut to the CSDiff.EXE program (located on the CS-RCS “System” directory).

- Double-click on the CSDiff icon to activate it with default parameters.
- Drag two files or a single file to the CSDiff icon to activate it with your selected files.
- To activate CSDiff from any external tool or DOS window, type:
  <CSDiff folder>\CSDiff.exe "FilePath1" "FilePath2"

Note: CSDiff is available as a free stand-alone product. For full details, visit the CSDiff home page at: http://www.ComponentSoftware.com/csdiff/

ComponentSoftware RCS Add-ons

From time to time, ComponentSoftware and other companies will provide add-on packages for CS-RCS. For instance, an add-on package named D3RCS enables the integration of CS-RCS with Borland's Delphi 2 and Delphi 3. Another add-on package, enables integration with Symantec Visual Café. For full details, visit CS-RCS web site at: http://www.ComponentSoftware.com/csrcs/addons.htm

RCS keywords

RCS keywords are special patterns inserted in text files managed by ComponentSoftware RCS. RCS keywords are used to incorporate RCS status information into source files.

For example, the command: const char *id = "$Id: $"
Is expanded to:
const char *id = "$Id: key.txt,v 1.2 1997/06/02 12:13:44 Jacob Exp Jane $"

Click here for a list of commonly used RCS keywords.

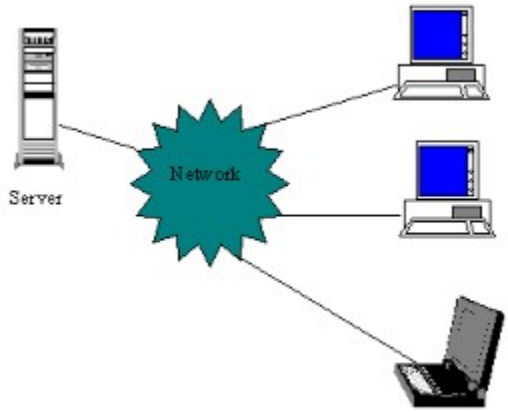
Notes:

- RCS keywords are not applicable for binary files such as MS-Word documents.
- RCS keywords times use UTC.

Introduction

Workgroup environment consists of three components:

- The RCS repository server
- The workstations
- The network



The RCS Repository Server

The requirements from the RCS repository server are:

- All workstation must have read and write access to the server's drive.
- The server must support long file names.

Popular servers that meet these requirements are:

- Windows 95 or Windows NT shared (i.e., "exported") folder
- Windows NT Advanced Server
- NetWare Novell (*Note: long file names support should be installed*.)
- SMB server on a UNIX machine (such as public-domain SAMBA)
- NFS server on a UNIX machine.

Notes:

- You may use the same machine as both server and workstation.

- You may refer the shared drive as a normal drive letter (F:, for example) or as an UNC path (\\SERVER1\RCS-TREE\, for example). The later is simpler and guaranties unique identification of the shared drive.

The RCS Workstation

The RCS Workstation

Any machine running Windows 95 or Windows NT can be used as an RCS workstation.

The following example illustrates a typical environment:

The RCS administrator creates the following document tree and adds the documents to the RCS repository.

C:\Project1\…

C:\Project1\Src

C:\Project1\Doc

C:\Project1\FAQ

C:\Project2\…

C:\Project2\Src

C:\Project2\WWW

From now on, any workstation's user can perform the following operations:

- Retrieve a local copy (called *working copy*) of the current revision. A workstation may retrieve either Project1 or Project2 (or both).
- Retrieve a read-only copy (an *Archived* copy) or a read-and-write copy (a *Locked* copy). CS-RCS grants one user only may change a document at a given time.
- Check-in a new revision. All other users are notified a new revision of the document is available.
- Add a new document to the repository. All other users are notified a new document is available.

Notes:

- By default, the working folders have the same structure on all workstations. You can change this by customizing the *Workstation* properties of any project.
- If desired, the working folders may reside on a server drive that is private to each workstation. As an example: the working folder may be G:\Project1 while G: is mapped to \\SERVER\User1 on one workstation and mapped to \\SERVER\User2 on another workstation.

<u>The Network</u>

The Network

You may select the network that best meets your needs:

- **Local Area Network (LAN)** – Teams that are located in the same building should use a LAN to access the RCS repository.
- **Corporate network** – Coworkers that are located on several sites of the same organization should use the corporate network (LAN/WAN) to access the RCS repository.
- **Dial-up connection (RAS)** – Mobile workers can use dial-up lines (regular phone or ISDN) to access the RCS repository server.
- **The Internet** – Coworkers located anywhere in the country or around the globe can use the Internet to access the RCS repository. While the workstations may have local dial-up connection to the Internet, the server must have a permanent connection to the Internet. (Virtual hosting service and connect-on-demand are cost-effective solutions.) The server must be able to export the shared RCS repository tree to the Internet (password protected, of course). This feature is build-in on NT servers and may be easily installed on UNIX servers using a public-domain product named Samba (NetBIOS over TCP/IP). The new Point-to-Point Tunneling Protocol (PPTP), enables Windows 95 and NT clients to communicate securely with an NT Internet server providing a Virtual Private Network (VPN) over the Internet

Tutorial

Workgroup Environment Tutorial

To setup ComponentSoftware RCS in a workgroup environment, follow these ten simple steps:

- Activate the setup program on your workstation and click *Master Setup*. Specify a server drive or Windows shared folder for the repository root.
- Follow the quick-start tutorial above to get familiar with CS-RCS and to verify full access to the repository.
- Create several additional test files; Add these files to the RCS repository as well. (*Note:* The working copy of your test files should be located on your local drive and **not** on a shared drive.)
- Select one or two files and apply *Check-out* with the *Lock* option cleared. That will release the lock from these files. (*Note:* These files are now read-only and should not be modified.)
- Activate the *Document Explorer*, choose *Project* and then *Scan New Files*. Files' status should be either *Archived* or *Locked*.
- On another workstation, activate the setup program and click *Workstation Setup*. (*Note:* You must use another user name for this workstation.)
- Activate the *Document Explorer* and choose *Project Scan New Files*. You should see all the archived files marked as *New*. (Means there is no local working copy of these file on this workstation.)
- Choose *Project* and then *Update*. CS-RCS will create a local working copy on the workstation PC. File status is *Blocked by...* for files locked by the administrator, *Locked* for files locked by the workstation user and *Archived* for files without any lock.
- On the workstation, check-out (locked), modify and check-in one file.
- Click *F5* on the administrator's *Document Explorer* window. The file that has been modified on the workstation have an *Updated* status. That indicates that your local copy is outdated and you should check-out the updated revision whenever convenient.

Notes:

- You may install CS-RCS on as many workstations as desired.
- It is **very** important to keep the workstations' time synchronized with your file-server time. (You can use the Windows *net time \\YourServer /set* command for that purpose.)
- By default, the working folders have the same structure on all workstations. You may customize this using CS-RCS projects. (Right-click the *Document Archive* icon and choose the *Properties* menu. Then select the *Projects* tab).
- To avoid mutual interference problems in software projects, it is recommended to check-out all *Updated* files and to re-test your modifications. Then you can safely commit a new revision to the RCS repository,

Thank You

Now you have the skills necessary to take advantage of the power of CS-RCS in a workgroup

environment. Thank you for participating in this tutorial.

Working with Projects

ComponentSoftware RCS can be used to manage any number of documents. When working with a large number (over 50) of documents, it is recommended to group these files into projects. Working with projects you have the following benefits:

- It is convenient to inspect and perform RCS operations on a pre-defined set of related files.
- Users manipulating one project can not accidentally modify the state of documents assigned to another project.
- Projects can be defined as a sub-tree of the central repository or as an alternate repository tree. With alternate repository tree, you can use ComponentSoftware RCS to manage distributed RCS repositories in the corporate network or over the Internet.
- Projects can be assigned a per-workstation working directory root.

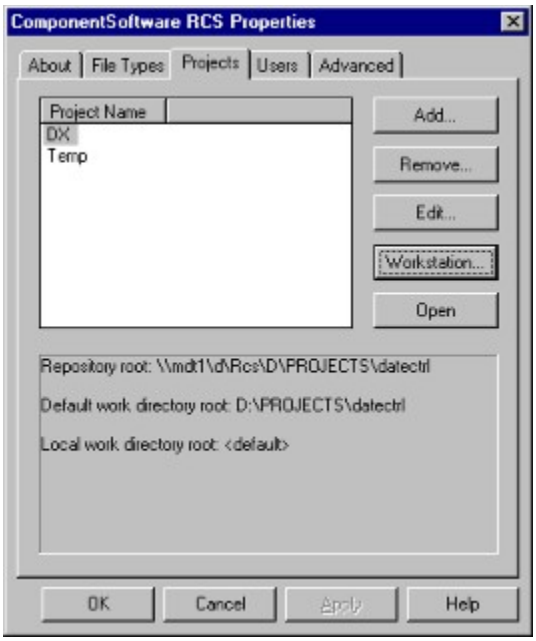
Note: ComponentSoftware RCS must be configured to use **Central Repository** in order to support projects. (Central repository is the setup program default.)

The Project Library

To create a new project or edit an existing one, activate the ComponentSoftware RCS *Project Library* by either:

- Invoke the Explorer *Start* menu, and select *Programs* | *CS-RCS* | *Properties*.
- Right-click on the *Document Archive* icon on the desktop and select *Properties*.
- Double-click on the *Document Archive* icon on the desktop to activate the *Document Explorer*. Choose *Project* and then choose *Settings*.

The *Projects* tab is used to create and edit projects.



This dialog box gives you the following options:

- Press **Add…** to define a new project.
- Press **Remove…** to remove the selected project.
- Press **Edit…** to edit the selected project. (Click on the project's label to rename a project.)
- Press **Workstation…** to define the local workstation working directory of the selected project and to create a desktop shortcut to the project.
- Press **Open…** to open the selected project.

Create a New Project

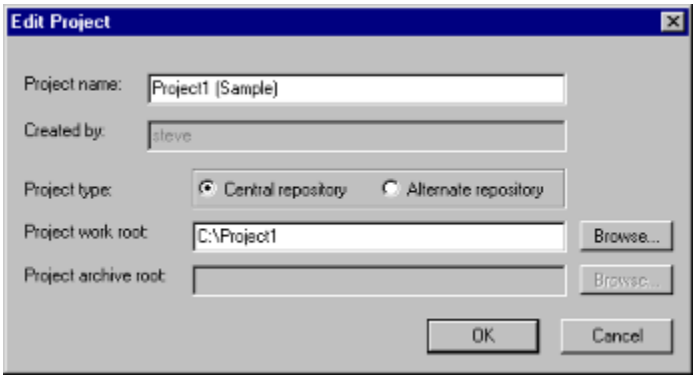
To create a new project, please prepare few sample files:

1. Create a new folder named *C:\PROJECT1*.

2. Copy few sample files into the folder.

3. Add all sample files to the RCS repository. (Select all files and apply *Add to RCS*.)

Now, activate the *Project Library*. Press **Add…** to define a new project.



This dialog box includes the following properties:

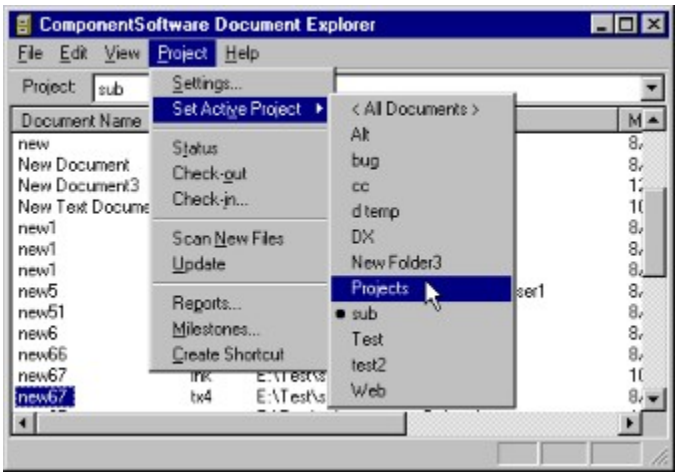
- *Project name* – Specify the desired project name.
- *Created by (read-only)* – Project creator name.
- *Project type* – Select *Central repository* to specify a sub-tree of the central repository. (*Alternate repository* is used to define an external RCS repository tree. This feature is usually used to access documents of other department or other company.)
- *Project work root* – Specify the work root of the project. Press the **Browse…** button**.** Select *C* and then *PROJECT1*.
- *Project archive root* – This field is applicable to alternate repositories only. (*Central repository* projects are mapped to the central repository using the normal ComponentSoftware RCS mapping conventions.)

Press **OK** to return to the *Project Library*. Press **OK** again to save the new settings.

Note: Advanced users can define sub-projects using the same method. As an example, create a sub-folder named *C:\Project1\Doc* and map it to a new project named *PROJECT1 Documents*. Operations on the *PROJECT1 Documents* project will affect files within the *Doc* sub-folder. Operations on the *PROJECT1* project will affect all files within the *C:\PROJECT1* tree.

Project-level Operations

Double-click on the *Document Archive* icon on the desktop to activate the *Document Explorer*.



- Choose *Settings…* to activate the ComponentSoftware RCS *Project Library Manager*.
- Switch to any project by selecting it from the *Project* list box or from the *Set Active Project* menu. (***Tip:*** Select *<All Documents>* to perform operations on all documents within the repository.)

Once you have selected a project, you can perform the following project-level commands:

- Choose *Status* to evaluate the status of documents of the current project.
- Choose *Check-out* to check-out all documents within the current project. Use this command to check-out the latest revision of the RCS repository into your working directory. On workgroup environment, this command is used to lock and unlock files as well. (***Note:*** See the *Update* command below for an alternative way to update the working directory.)
- Choose *Check-in* to check-in all modified documents within the current project.
- Choose *Scan New Files* to scan the RCS repository for new documents of the current project.
- Choose *Update* to update your working directory to the latest revision of the RCS repository. (***Note:*** Unlike the *Check-out* command, the *Update* command does not change the *lock* state of files and does not suggest to revert modified files.)
- Choose *Create Shortcut* to create a *Windows Desktop* shortcut for the current project and its sub-projects.

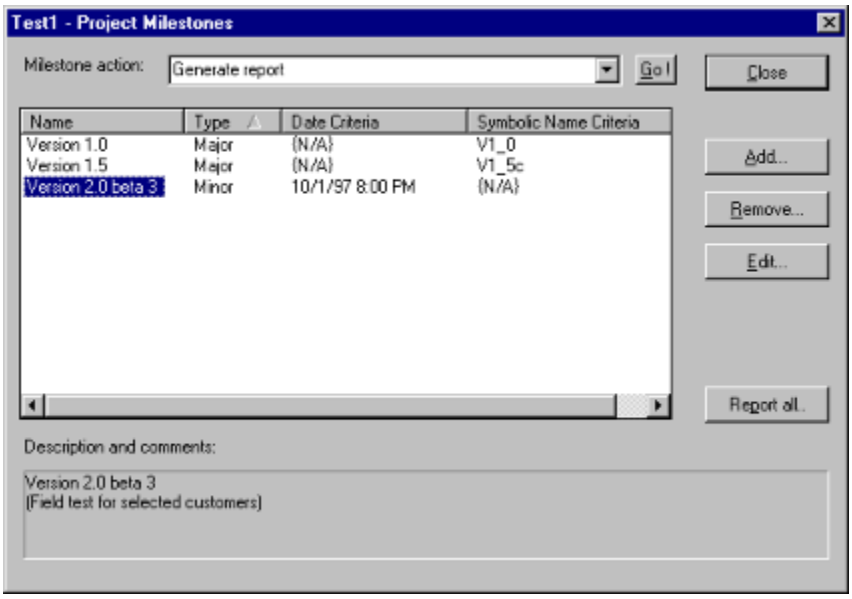
Note: The *Reports* and *Milestones* commands are elaborated on the next sections.

Project Milestones

Whenever a project reaches a significant milestone (such as product release) it is recommended to mark the current status. This mark enables you to “freeze” the current state and to backtrack later if needed.

The Milestone Library

Choose the *Milestones* command to get the project's *Milestone Library*.

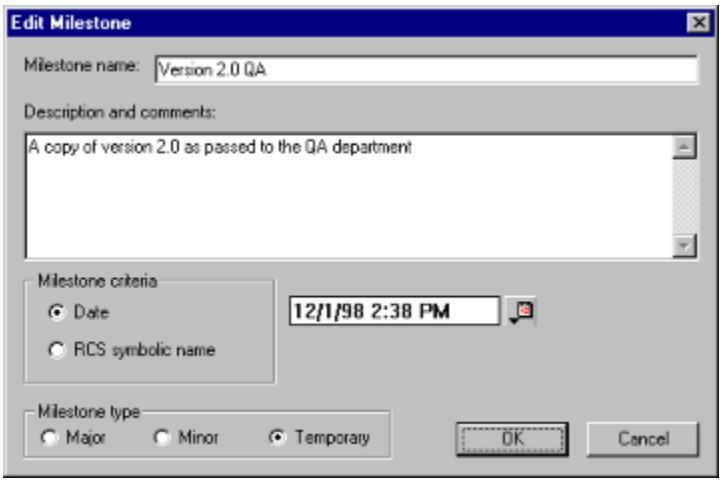


This dialog box gives you the following options:

- Press **Add…** to define a new milestone.
- Press **Remove…** to remove the selected milestone.
- Press **Edit…** to edit the selected milestone. (Click on the milestone's label to rename it.)
- Press **Report all…** to generate a report for all defined milestones. (Refer to the *Project Reports* section for full details on the CS-RCS report generator.)
- Select an action and Press **Go…** to perform an action on the selected milestone.

Creating a New Milestone

To define a new milestone, activate the *Milestone Library and p*ress **Add…**.



This dialog box includes the following properties:

- Milestone name – Specify the desired Milestone name.
- Description and comments – Describe the reason for this milestone.
- Milestone criteria – Specify the time and date of this milestone. Alternatively, provide an RCS symbolic name that defines the milestone. (*Note:* The second method is to be used mainly with legacy RCS files.)
- Milestone type – Select *Major* to indicate major releases. Select *Minor* to indicate intermediate releases. Select *Temporary* to indicate internal releases.

  Notes:

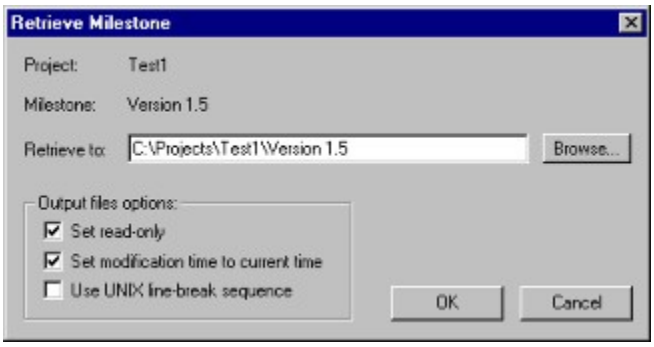
  - To "freeze" the project's current state, be sure none of the files is currently modified by any user. (That is, all files in the project are either *Archived* or *Locked*.)
  - Advanced users might consider to mark each RCS file with an RCS symbolic name as well. For full details, refer to the *Mark* command of the CS-RCS command-line interface.

Milestone Reports

To generate reports for a milestone, select the *Generate report* action and click on the *Go* button. This will activate the CS-RCS report generator. (Refer to the *Project Reports* section for full details on the CS-RCS report generator.)

Milestone Retrieval

You may anytime retrieve a project revision specifying a milestone name. To do so, select the *Retrieve revision* action and click on the *Go* button.



This dialog box includes the following properties:

- Retrieve to – Specify the actual working tree root for this retrieve operation. (For instance, you may use this option to retrieve any revision to a production server.) Click the *Browse*...button to browse for the desired folder.

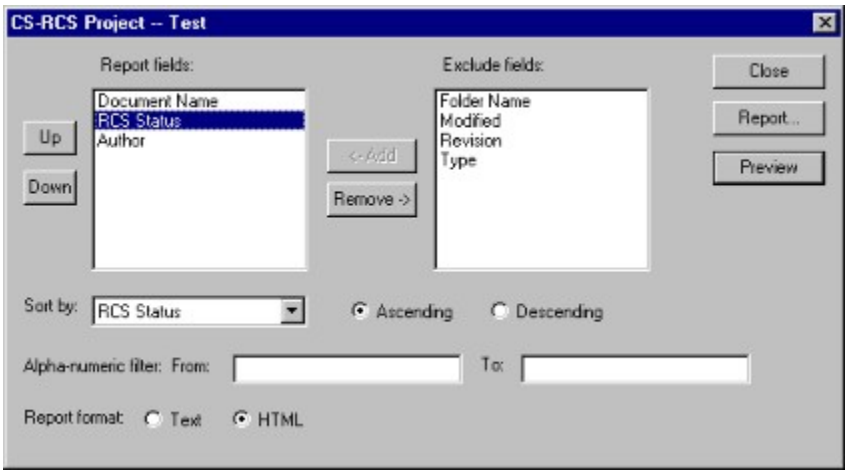
- Set read-only – Clear this option to produce output files with a read-write permission.

- Set modification time to current time – Clear this option to produce output files with modification time identical to the files' original check-in time. (This feature is useful is you wish to perform folder comparison. However, it should be used with care since it might confuse *make* utilities.)

- Use UNIX line-break sequence – By default, CS-RCS produce working files using the DOS/Windows line-break sequence conventions. Clear this option to produce output files with the UNIX line-break sequence conventions. (This feature is useful is you wish to use UNIX tools to process the output files.)

Project Reports

Choose the *Reports* command to generate a report of the current project.



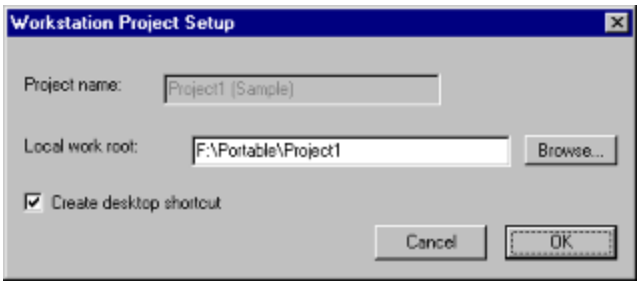
This dialog box includes the following options:

- Specify the desired fields and order on the *Reports fields* table. (To add a field, select on the *Exclude fields* table and click *Add* or double-click on the field name.)
- Select the sort key on the *Sort by* table. Choose *Ascending* or *Descending* as desired.
- To report a range, specify an alphanumeric string on the *From* and/or *To* fields. The specified filter is used to determine the report range according to the report sort key.
- Choose *Text* for text reports. Text reports can be imported by any Windows spreadsheet, database or report-generator. Choose *HTML* for HTML reports. HTML reports can be published on the Web. Then, using any browser, they can be examined and printed.
- Choose *Preview* to preview your report.
- Choose *Report…* to generate a report to a file.
- Choose *Close* to close this dialog.

Local Workstation Settings

Sometimes, it is convenient to tune projects mapping for a specific workstation. To do so, activate the *Project Library* and select the desired project.

Press **Workstation…** to customize the local workstation properties.



This dialog box includes the following properties:

- Local work root – By default, all workstations have the same working directory structure as derived from the repository structure. Whenever desired, you may specify a local working directory root for the selected project. (For instance, you may want to map the working folders to a portable media.)

- Create desktop shortcut – Check this option to create a *Document Explorer* desktop shortcut for this project.

Note: Working-file to repository-file mapping is done using a best-fit method.

Delete and Rename Commands

Sometimes, a new file added to the repository obsolete an entire old file. To delete RCS files, select the desired files in the *Document Explorer*, invoke the context menu and choose *Delete*. (Obsolete files are labeled with the *Deleted* status.)

Using the *Document Explorer*, you may perform the following operations on *Deleted* files:

- Trace the history and retrieve any revision of the file.
- Restore the file into a normal state.
- Permanently remove the file from the RCS repository.

***Tip*:** Choose *View* and then *Deleted Documents* to toggle *Deleted* documents display.

Another common scenario is when working file's name and/or folder changes. To rename an RCS file, select the desired file in the *Document Explorer*, invoke the context menu and choose *Rename*. The *Rename* command marks the old RCS name as *Deleted* and creates a new RCS file with the desired name and location.

The implementation of the *Delete* and *Rename* commands enable to retrieve old project milestones containing deleted or renamed files. Since this method is very important for project-level revision management, you should be careful with permanent deletion of RCS files.

Note: You may not delete or rename files locked by other users.

ComponentSoftware Document Explorer

- Click on any column header to sort the list as you wish. Click again on the same column header to reverse the sort order.

- Select single or multiple documents. Click the right mouse button to open the context menu and apply any RCS command.

- Choose *File* and then *Add* to add new documents to the RCS repository. (*Note:* When using the *local RCS directories* option, select a single file to add the complete RCS directory to the *Document Explorer*.)

- Choose *View* and then *Refresh* to refresh the status of all documents. It is convenient to re-sort the list when the refresh operation is completed. (*Note:* When working with many RCS files, the refresh operation is sometimes time consuming. Since the status information is cached, further refresh operations will be much faster.)

The Document Status property gives you the exact state of the document:

- *Locked* – You may change the document. (In a workgroup environment, nobody else may change it.)
- *Modified* – You have changed the document. It is recommended to check-in the document whenever it receives a significant revision.

In a workgroup environment, a document may have the following states as well:

- *Archived* – The document is archived. Nobody may change it. (The working copy has a read-only permission.)
- *Blocked By…* – A partner had locked the document. Nobody else may change it till the lock is released.
- *New* – The document exists in the archive but not in your working directory. You may check-out the document in order to get the current revision.
- *Updated* – The document has been updated in the archive. You should check-out the document in order to get the current revision.
- *Unlocked Modified* – Although not locked, this document has been assigned read-write permission and has been modified. Use the check-out command to lock this document or to revert to the current revision. (*Note:* Since multiple users may change the same revision, this method should not be used on a regular basis.)
- *Deleted* -- The document has been deleted from the project. You may still retrieve the various revisions of the document to back-track any state of the project. (*Tip*: Choose *View* and then *Deleted Documents* to toggle *Deleted* documents display.)

Project-level commands:

- Choose *Settings…* to define a new project or to edit existing project settings.
- Choose *Set Active Project* to switch from project to project.
- Choose *Status* to evaluate the status of the current project.
- Choose *Check-out* to check-out all files within the current project.
- Choose *Check-in* to check-in all modified files within the current project.
- Choose *Scan New Files* to scan the RCS repository for new files and refresh the status of files

within the current project.

- Choose *Update* to update your working directory to the latest revision of the RCS repository.
- Choose *Mark Revision* to mark the current project state for later retrieval.
- Choose *Retrieve Revision* to retrieve a project revision by any date or milestone name.
- Choose *Create Shortcut* to create a *Windows Desktop* shortcut for the current project.
- Choose *Reports…* to generate reports for the current project.

Revision Manager Options

- Click on any column header to sort the list as you wish. Click again on the same column header to reverse the sort order.
- Select any revision on the list to view the revision's description and comments. Click the right mouse button to edit the revision information.
- Press **View Revision** to view the selected revision.
- Press **Retrieve Revision** to save the selected revision to disk.
- Press **Compare Revisions** to view the changes done between the selected revision to any other revision or the working copy.
- Press **RLOG Report** to view a detailed change report for the file.
- Press **…** to set the document title and description.

CS-RCS Properties – About Tab

Use the **About** tab to:

- Verify your CS-RCS version and build number.
- Get Technical support and order information.
- Load the registration key.
- Uninstall the product.

CS-RCS Properties – File Types Tab

Use the **File Types** tab to configure how CS-RCS handles any file type:

Text or Binary

CS-RCS does not perform any translation or RCS keyword expansion for binary files.

Viewer (used to view RCS revisions)

You can select the following:

- CS-RCS internal text viewer.
- Program associated with the Windows Explorer *Open* Command.
- User external program.

Revision Difference Analysis Tool

You can select either:

- CS-RCS internal tool – displays rich-text difference analysis and GNU *diff* format for text files. Invokes MS-Word difference tool for *.doc* and *.rtf* documents.
- User external program.

This dialog box gives you the following options:

- Press **Add…** to define a new file type.
- Press **Remove…** to remove the selected file type.
- Press **Edit…** to edit the selected file type.
- Press **Default…** to define the default attributes of new file types.

CS-RCS Properties – Projects Tab

Use the **Projects** tab to define CS-RCS projects. CS-RCS projects can be used in the following scenarios:

- When working with a large number of documents, define a sub-tree of the central repository tree as a project. Enables convenient navigation and inspection as well as CS-RCS commands execution on a pre-defined set of files.

- Declare an alternate repository directory as a new project. Enables using CS-RCS to manage several RCS repositories within the corporate network or over the Internet.

- Map a project to an alternate working directory. Enables a customized working directory per workstation as well as easily freezing a milestone snapshot on a production server. (*Note:* Working-file to project mapping is done using a best-fit method.)

Click here for full details on using projects.

This dialog box gives you the following options:

- Press **Add…** to define a new project.
- Press **Remove…** to remove the selected project.
- Press **Edit…** to edit the selected project. (Click on the project's label to rename a project.)
- Press **Workstation…** to define the local workstation working directory of the selected project and to create a desktop shortcut to the project.
- Press **Open…** to open the selected project.

Note: CS-RCS must be configured to use **Central Repository** in order to support projects. (Central repository is the setup program default.)

CS-RCS Properties – Users Tab

Use the **Users** tab to define the valid users of CS-RCS.

This dialog box gives you the following options:

- Press **Add User…** to define a new user.
- Press **Remove User…** to remove the selected user.

Note: The **Users** tab is part of CS-RCS license manager and is applicable for registered sites only.

CS-RCS Properties – Advanced Tab

Use the **Advanced** tab to customize the advanced properties of CS-RCS.

Caution: This form should be used by advanced users with good knowledge of GNU RCS.

This dialog box gives you control on the following properties:

- RCS suffix – By default, RCS files are created with a ",v" suffix. (This is the convention used by GNU RCS on UNIX machines.) If you have existing RCS files with another suffix (or with no suffix at all), you may want to change the default CS-RCS suffix.

- New files' parameters – Clear this option if you wish to specify the initial revision number and the initial message and description of new CS-RCS files.

- CS-RCS cache – CS-RCS caches calculated RCS status for further status evaluation. This option should be always checked unless you have sever local drive space limitations. Click on **Clear Cache** to force re-calculation of all files status. Note: The cache information is usually saved in: C:\Program Files\ComponentSoftware\CS-RCS\Cache

- Case sensitive user names – Windows 95 and Windows NT are user-name case insensitive. GNU RCS is user name case sensitive. To resolve this conflict, CS-RCS translate all user names to lower case. If you prefer to work with case-sensitive user names (Windows 95 only) -- enable this option. Note: Before clearing this option, verify all RCS files are *Archived*. Otherwise, you might have problems checking-in or unlocking certain files.

Command-line Interface

Sometimes, it is convenient to perform an operation using command-line interface. For instance, you might wish to invoke ComponentSoftware RCS from development tool such as Visual Basic or Delphi or from batch file. ComponentSoftware RCS supports basic command-line interface and an advanced command-line interface.

Basic Command-line Interface

The basic command-line interface has been designed to enable the integration of ComponentSoftware RCS with development tools such as Visual Basic, Delphi, Visual C++ and programmer's editors.

The basic command-line interface syntax is:

CSRCS *command* "*file-path"*

Basic command-line interface commands:

Create – Add a new file to the RCS repository

CheckOut – Check-out a working copy.

CheckIn – Check-in a modified file.

Status – Inspect the RCS status of a file

History – Trace the revisions of a file.

Help – Get on-line help.

Example:

To check-in a modified file to the RCS repository, type in the Explorer **Run…** window:

CSRCS CheckIn "C:\Project1\Src\test.c"

Advanced Command-line Interface

The advanced command-line interface has been designed to deliver the full power of ComponentSoftware RCS for the Explorer *Run* window, DOS command windows and batch files. (*Note:* The advanced command-line interface is a superset of the basic command-line interface.)

The command-line interface syntax is:

CSRCS *command* [*command-switches*] "*file1"* ["*file2"* ...]

The *file* argument(s) can be either:

- Full path
- Relative path to the current working directory.
- Wildcard argument

Examples:

To get the RCS status of all files in the current directory tree type:

CSRCS Status /s *.*

To check-in all .c and .h files in the current directory type:

CSRCS ci *.c *.h

To retrieve all files of project *Test* as they were on July 15, type:

CSRCS retrieve /d"15-Jul" /p"Test"

The next sections elaborate the various commands and command options.

Create command

Purpose: Add new files to the RCS repository

Syntax: CSRCS Create [*command-switches*] "*file1"* ["*file2"* ...]

Abbreviation: *Add*

Switches:

/s – Handle files in specified directory and all sub-directories.

Exit code: 0 – success; 1 – otherwise.

CheckOut command

Purpose: Check-out working copy of files.

Syntax: CSRCS CheckOut [*command-switches*] "*file1"* ["*file2"* ...]

Abbreviation: *co*

Switches:

/s – Handle files in specified directory and all sub-directories.
/p"ProjectName" – Perform operation on all files in project *ProjectName.*
/l – Lock the files.
/u – Unlock the files.
/q – quiet mode. (Do not display dialog box and status messages)

Exit code: 0 – success; 1 – otherwise.

CheckIn command

Purpose: Check-in modified files. Assign symbolic name to revision.

Syntax: CSRCS CheckIn [*command-switches*] "*file1"* ["*file2"* ...]

Abbreviation: *ci*

Switches:

/s – Handle files in specified directory and all sub-directories.
/p"ProjectName" – Perform operation on all files in project *ProjectName.*
/l – Lock the files.
/u – Unlock the files.
/*m"message"* – Use *message* to describe the checked-in revision.
/*m@filename* – Read message from *filename*, use to describe the checked-in revision.
/nname – Use *name* as the checked-in revision symbolic name.
/q – quiet mode. (Do not display dialog box and status messages)

Exit code: 0 – success; 1 – otherwise.

Status command

Purpose: Display the files' RCS status

Syntax: CSRCS Status [*command-switches*] "*file1"* ["*file2"* ...]

Abbreviation: *st*

Switches:

/s – Handle files in specified directory and all sub-directories.
/p"ProjectName" – Perform operation on all files in project *ProjectName.*

Exit code: 0 – success; 1 – otherwise.

History command

Purpose: Trace the revisions of a file.

Syntax: CSRCS History "*file"*

Abbreviation: *his*

Switches:
None

Exit code: 0 – success; 1 – otherwise.

Note: The history command in valid for single file only.

Mark command

Purpose: Mark current revision of files. Use this command to "freeze" the current status whenever your project reaches a milestone.

Syntax: CSRCS Mark [*command-switches*] "*file1"* ["*file2"* ...]

Abbreviation: *mr*

Switches:

/s – Handle files in specified directory and all sub-directories.
/p"ProjectName" – Perform operation on all files in project *ProjectName.*
/nname – Mark current revision with a symbolic name.
/*m"message"* – Use *message* to describe checked-in modified files.
/tstate – Assign *state* to the current revision. (See note below)
/rrev – Change the current revision number to *rev*. (See note below)
/q – quiet mode. (Do not display dialog box and status messages)

Exit code: 0 – success; 1 – otherwise.

Notes:

- Before activating this command, verify none of the files is locked by other users.

- A state is an identifier used to categorize the revision. A useful set of states is Exp (for experimental; this is the default), Stab (for stable), and Rel (for released). The revision state is listed in the RLOG report and expanded by the $State$, Id and $Header$ keywords.

- You may optionally assign a new revision number (e.g., 2.0) to register the milestone. Since symbolic names provide the same benefits, this feature is redundant and provided for compatibility reasons only. If you use this feature, you should force the new version number for new files added to the archive. See the *Advanced* properties tab for more details.

Retrieve command

Purpose: Retrieve archived revision of files.

Syntax: CSRCS Retrieve [*command-switches*] "*file1"* ["*file2"* ...]

Abbreviation: *ret*

Switches:

/s – Handle files in specified directory and all sub-directories.
/p"ProjectName" – Perform operation on all files in project *ProjectName.*
/*d"date"* – Retrieve the last revision created before a specific date. (if any)
/nname – Retrieve a revision marked with a symbolic name. (if any)
/a"AlternateWorkRoot" – Retrieve to an alternate working directory.
/q – quiet mode. (Do not display dialog box and status messages)

Exit code: 0 – success; 1 – otherwise.

Notes:

- */d* and */n* are mutually exclusive. If non of them is specified, the head revision is retrieved.
- Valid date formats are: DD-MMM, DD-MMM-YY, DD-MMM-YY HH:MM or HH:MM. For example: 15-Jun-97 10:45 ; 16-Jun ; 20:00 (today)

Scan command

Purpose: Scan new files of project.

Syntax: CSRCS Scan *command-switches*

Abbreviation: *sc*

Switches:

/p"ProjectName" – Perform operation on all folders of project *ProjectName.*
/q – quiet mode. (Do not display dialog box and status messages; this is the default)

Exit code: 0 – success; 1 – otherwise.

Notes:
All project operations are performed on project listed files. It is recommended to use the *Scan* command from time to time to update the project file list.

Update command

Purpose: Update the local working copy of files with a new archive revision.

Syntax: CSRCS Update [*command-switches*] "*file1"* ["*file2"* ...]

Abbreviation: *upd*

Switches:

/s – Handle files in specified directory and all sub-directories.
/p"ProjectName" – Perform operation on all files in project *ProjectName.*
/q – quiet mode. (Do not display dialog box and status messages)

Exit code: 0 – success; 1 – otherwise.

Notes:

Unlike the *Check-out* command, the *Update* command does not change the *lock* state of files and does not suggest to revert modified files.

Report command

Purpose: Generate project reports.

Syntax: CSRCS Report *command-switches*

Abbreviation: *None*

Switches:

/p"ProjectName" – Generate report on project *ProjectName.*

/r "*ReportDescription*"– Report definition string. The report definition string consists on the following fields: (*Note:* All fields are optional. Fields are concatenated and may be specified in any order.)

- **O:**"*OutputFileName*"
  Output is generated into *OutputFileName.* When this field is not specified, the *Project Report Dialog* is invoked. (*Tip:* Initially, omit this parameter to debug all other parameters' setting.)

- **R:**A|H
  Specify the report type. (A - Text ; H - HTML)

- **C:***ColNum*[…]
  Specify one or more columns to report. (0 - Document name ; 1 - Document type ; 2 - Folder name ; 3 - RCS Status ; 4 - Time modified ; 5 - Head revision number ; 6 - Last author/locker)

- **S:***ColNum*[*A*|*D*]
  Column number used as the sort key (column numbers as above). Optionally, Specify the sort order (A - Ascending ; D - Descending)

- **F:***From*[,*To*]
  Specify alphanumeric range to report. (The filter is applied on the selected sort field.)

Exit code: 0 – success; 1 – otherwise.

Example: CSRCS report /pTest /rR:HO:"C:\Temp\rcsreport.htm"C:3201S:0A
This command generates an HTML report of project *Test* into file C:\Temp\rcsreport.htm. The report consists on the first 4 columns and is sorted by file name in ascending order.

Help command

Purpose: Get on-line help.

Syntax: CSRCS Help

ComponentSoftware RCS Frequently Asked Questions (FAQ)

This FAQ has been updated on June 15, 1998. For the up-to-date FAQ, visit our web site at:
http://www.ComponentSoftware.com/csrcs/faq/

ComponentSoftware RCS and GNU RCS FAQ

What are the benefits of CS-RCS being based on GNU RCS?

CS-RCS is based on GNU RCS. CS-RCS archive files are 100% GNU RCS compatible. This architecture grants several benefits:

· Stability – GNU RCS is robust revision control system used by many thousands of developers.
· Interoperability – GNU RCS is available for many platforms and systems.
· Freedom – Since GNU RCS is de-facto standard for revision control, most configuration management products can import GNU RCS archive files. As a result, you have the freedom to switch to any product whenever you decide your needs have changed and CS-RCS does not fulfill them any more.

Can I use CS-RCS in conjunction with GNU RCS?

Since CS-RCS archive files are 100% compatible with GNU RCS, GNU RCS can be used in conjunction with CS-RCS. You may download the command-line port of GNU RCS to Windows 95 and NT from: http://www.coast.net/cgi-bin/coast/dwn?nt/pgmtools/rcs57pc1.zip

Note: CS-RCS is based on GNU RCS version 5.7.

Is CS-RCS GPL complaint?

The CS-RCS front-end and GNU RCS are two separate applications that run as separate Windows processes. The CS-RCS application is proprietary, but the GNU RCS application is distributed under the terms of the GNU GENERAL PUBLIC LICENSE (GPL). CS-RCS is not linked with RCS because such linking would violate the terms of the GPL. The Free Software Foundation affirms that running the two as separate processes, with a clean, well-defined general interface between them, justifies the view that they are two separate programs.

ComponentSoftware RCS Evaluation and Registration FAQ

Is CS-RCS free for personal use?

Yes. The CS-RCS setup program enables you to select your working mode:

- If you select *Personal* (i.e., single workstation), CS-RCS is fully functional unlimited free. (A $75 registration fee is required to get extended technical support and other registration benefits.)
- If you select *Workgroup*, CS-RCS is fully functional for a 30 days trial period.

Note: The rest of this chapter applies for Workgroup setups only.

Are there any differences between the evaluation version and the registered version?

No. CS-RCS is marketed in a true try-before-you-buy method. With this method you don't have to trust brochures and biased articles or to evaluate a limited demo; you evaluate the actual product and verify it meets your needs. When you decide to purchase the product, you are emailed a registration key. CS-RCS has been designed for simple installation and evaluation. Single user installation and following the tutorial is just 15 minutes. Workgroup installation and following the tutorial is about 30 minutes.

What happens when the 30 days evaluation period expires?

When the 30 days trail period expires, CS-RCS is blocked and you have to uninstall it. Your archive files are not affected and may be used by any port of GNU RCS. You may continue using CSDiff (the file comparison tool included with CS-RCS) free of charge.

Note: If you need an extended evaluation period -- please tell us.

Do I commit anything by evaluating CS-RCS or by using technical support?

You commit nothing. If you find that CS-RCS does not fulfill your needs, just uninstall it.

What is your technical support policy?

We provide comprehensive technical support for both registered users and evaluation sites. We believe that technical support is an important factor for product purchase and offer a try-before-you-buy method for the technical support aspect as well.

What is your upgrade policy?

We normally provide upgrades for minor releases for free. Otherwise, you get a full credit for your existing license value (excluding shipping & handling fees).

ComponentSoftware RCS Installation FAQ

Is CS-RCS year 2000 complaint?

Yes. CS-RCS is verified to work on the next century. (Y2KOK)

Does setup and/or uninstall affect the archive files?

CS-RCS archive files are 100% GNU RCS compatible. Therefore, the archive files do not carry any CS-RCS specific information and are not affected by the setup or the uninstall process.

What is the structure of the central repository tree used to store the archive files?

CS-RCS stores archive files in the following repository tree structure:
<repository root>\<drive>\<directory>

As an example, if the repository root is F:\RCS then:

c:\project1\src -> f:\rcs\c\project1\src
c:\project1\inc -> f:\rcs\c\project1\inc
c:\project2\src -> f:\rcs\c\project2\src
\\server1\doc\project1 -> f:\rcs\server1\doc\project1

Tip: Add a sample working file to the RCS repository. Using the Windows Explorer, discover the repository tree structure. Later, you may delete the sample files.

How do I import existing GNU RCS files to CS-RCS?

If your existing GNU RCS files are located within few folders, you may define *External Projects* (see the properties *Projects* tab) to reference your folder. Otherwise:

· Create the desired directory structure (see above).
· Copy your files to the desired directories.
· Choose *Project Scan New Files* in the *Document Explorer* window. The newly added files should be marked as *New*, means there is no local working copy for these file. Select these files and apply Check-out.

Notes:

- When importing files from UNIX systems by FTP, make sure to use *binary* transfer mode. Otherwise, you get a spurious "^M" on your text files. For simultaneous use of the archive file on Windows and UNIX platforms, see below.

- You must verify archives of binary files (such as MS-Word documents) are marked as *binary*. To do so, invoke the *RLOG* report from the *Revision History* window and search for *keyword substitution: b*. You may turn your files to binary using the *rcs -kb* command.

How do I change the repository root? How do I switch from local RCS directory to central repository?

· Reinstall CS-RCS and specify your desired repository root.
· Create the desired directory structure (see above).
· Copy your old files to the desired directories.
· Choose *Project Scan New Files* in the *Document Explorer* window. The newly added files should be marked as *New*, means there is no local working copy for these file. Select these files and apply Check-out.

How do I import MKS RCS files to CS-RCS?

Since it depends on the MKS RCS version used to create the files, please contact out technical support stuff. Please attach a sample archive file.

Can I install CS-RCS on NT 3.51?

CS-RCS is fully functional under NT 3.51, except for the Explorer and Shell integration,

Ho do I install long file names support on Novell servers?

From Novell FAQ:

> Q. How can I use long filenames for Windows 95 or NT Workstation with NetWare 4.1?
> A. At the server console :
> volumes
> Load OS2.NAM
> ADD NAME SPACE OS2 TO VOLUME volumename
> volumes
> Make sure you are using the Client 32 software, which supports long filenames.

How do I uninstall CS-RCS?

· Select the Add/Remove Programs icon on the Control Panel folder.
· Select CS-RCS and click Add/Remove…

Note: If you have already deleted the CS-RCS executables, re-install the product and perform the uninstall process as suggested.

Multi-platform Installation FAQ

How should I start using CS-RCS on a multi-platform environment?

First, please read the standard installation FAQ.

Second, install CS-RCS using a Windows shared drive as the repository root. This will ensure your workstations are valid and get you familiar with the product.

Third, verify your UNIX server meets the requirements below. Then, install CS-RCS selecting the multi-platform option and specifying a shared UNIX drive as the repository root..

The requirement from the UNIX drive used as the CS-RCS repository root are:

- All Windows workstations must have read/write/delete access. To verify that, create a file from a Windows workstation. From another workstation, modify that file and then delete it. Repeat this trial for all your workstations.

- The server must support long file names. To verify that, create a long file name (e.g., file.txt.tst) from one of the Windows workstation.

- The server should preserve mixed-case names. (Otherwise you will have problems using mixed-case names.) To verify that, create a mixed-case file name (e.g., MyTest.txt) from a UNIX terminal. Modify the file from one of the Windows workstation. Verify the file name has been preserved.

Verified products:

- Hummingbird's Maestro NFS client.
- Samba -- Public-domain SMB server for UNIX (http://samba.canberra.edu.au/pub/samba/).

What do I have to change in the Samba configuration in order to use CS-RCS?

You must define the delete readonly flag value to yes. Otherwise, multiple users won't be able to check-in/check-out files.

To work with a full case sensitive file-system, define the case sensitive and preserve case flags to yes.

Below please find a sample Samba configuration file (smb.conf):

[homes]
comment = Home Directories
browseable = no
read only = no
directory mode = 770
create mode = 0770
case sensitive = yes
preserve case = yes
delete readonly = yes
oplocks = no (Samba v1.9.18 and higher)

How do I map active UNIX RCS files to CS-RCS repository?

Install CS-RCS specifying *Central Repository* (the default). Then, use the UNIX "ln" command to map the CS-RCS repository to your current repository.

For example:

Working directory – c:\project\src
UNIX RCS files directory – /archive/project1/src
CS-RCS repository root: /users/CS-RCS

Type on the UNIX terminal:

```
ln -s /archive/project1/src /users/CS-RCS/c/project/src
```

Note: You must verify archives of binary files (such as MS-Word documents) are marked as *binary*. To do so, invoke the *RLOG* report from the *Revision History* window and search for *keyword substitution: b*. You may turn your files to binary using the *rcs -kb* command.

How can I eliminate the line-break sequence auto-conversion?

CS-RCS assumes the working files are manipulated by Windows tools and automatically apply the Windows line-break convention to working files. (That is, the UNIX-style <*lf*> is converted to <*cr*><*lf*> on-the-fly.)

If you wish to eliminate this conversion for **specific file types**, right-click on the *Document Archive* icon and select *Properties*. Select the *File Types* tab and define the desired file types as *Binary*. Define the *Difference Analysis Tool* as: "C:\Program Files\ComponentSoftware\CS-RCS\System\CSDiff.exe" and check the *Use long names* option. Please note that existing RCS files are handled according to their current settings and you must verify they are defined as *Binary*. To do so, invoke the RLOG report from the *Revision History* window and search for "keyword substitution: b". If needed, you may turn your files to binary using the "rcs -kb" command.

If you wish to eliminate this conversion for **all file types**, select the Advanced tab of the *Document Archive's Properties* and clear the cache. Then define the following registry key:
[HKEY_CURRENT_USER\Software\ComponentSoftware\CS-RCS]
"UnixWorkFiles"=dword:00000001

Note: This mode is useful when the Windows workstation is used as an X terminal. To revert to the normal mode, clear the cache and change the key value to 0.

Warning: Many Windows tools handle files containing UNIX-style line-break sequence incorrectly.

How do I migrate from SCCS to CS-RCS?

You may convert your SCCS files to RCS using a script named sccstorcs (available from few software sites on the net). Then you can use either the NT port of GNU RCS or CS-RCS.

ComponentSoftware RCS How To... FAQ

How should I use CS-RCS with other tools?

The operation concept of Windows 95/NT4.0 dictates the shell itself provides the integration between applications. To use CS-RCS with other tools, invoke the CS-RCS *Document Explorer*. For easy control, keep the modified files on top of the *Document Explorer* or use project-level commands. Use the Windows taskbar to switch between the *Document Explorer* and other applications.

CS-RCS add-on packages provide a tight integration with development tools such as Borland Delphi and Symantec Visual Café. For full information, go to http://www.ComponentSoftware.com/csrcs/addons.htm

Additionally, most tools have configurable *Tools* menu and/or macro language. Using the CS-RCS high-level command-line interface, you can easily tailor CS-RCS to your tool. (see below)

How can I invoke CS-RCS from other applications or batch files?

CS-RCS supports three levels of command-line interface:

Basic interface:

This is a very simple command line interface designed mainly to enable the integration of CS-RCS with development tools such as Visual C++, Visual Basic and Borland Delphi. Click here for full details and syntax.

Advanced interface:

The advanced command-line interface has been designed to provide the full power of ComponentSoftware RCS for DOS command windows and batch files. Click here for full details and syntax.

Raw-level interface:

This interface should be used by programmers with good knowledge of GNU RCS. With this interface you have the full power to manipulate the archive files. Since CS-RCS archive files are 100% compatible with GNU RCS, the command-line port of GNU RCS is used in conjunction with CS-RCS.
To download the command-line port of GNU RCS to NT visit: http://www.coast.net/cgi-bin/coast/dwn?nt/pgmtools/rcs57pc1.zip

What are RCS keywords? How do I use them?

RCS keywords are special patterns inserted in text files managed by CS-RCS. RCS keywords are used to incorporate RCS status information into source files.

For example, the command: const char *id = "$Id: $"
Is expanded to:
const char *id = "$Id: key.txt,v 1.2 1997/06/02 12:13:44 Jacob Exp Jane $"

Please note that keywords are not expanded for RCS files defined as *Binary*. (To find out, invoke the

RLOG report from the *Revision History* window and search for "keyword substitution: b".) You may turn your files to *Text* using the "rcs -kkv" command. You can download the *rcs* utility and samples from: http://www.ComponentSoftware.com/ftp/rcsadmin.zip (47KB)

Click here for a list of commonly used RCS keywords.

Note: Since keyword expansion can slow-down check-in and check-out operations and cause unnecessary compilations, you may want to use keywords on specific files only.

How do I unlock an RCS file?

You can unlock an RCS file by using the “rcs -u” command. You can download the *rcs* utility and samples from: http://www.ComponentSoftware.com/ftp/rcsadmin.zip (47KB)

Note: This method should not be used on a permanent basis.

How do I use CS-RCS over the Internet?

You may locate your repository files on an Internet or Intranet server and access the repository in a method called "NetBIOS over TCP/IP".

The setup of client Windows machines to use "NetBIOS over TCP/IP" is quite simple. (Just define server name and IP address in the LMhosts file. On NT 4.0 verify that the "Enable LMhosts Lookup" option of the "TCP/IP Properties" is checked.)

The server must run SMB server protocol. This feature is build-in on NT servers and can be easily installed on UNIX servers using a public-domain product named Samba. (Samba home page URL is: http://samba.canberra.edu.au/pub/samba/)

The new Point-to-Point Tunneling Protocol (PPTP), enables Windows 95 and NT clients to communicate securely with an NT Internet server providing a Virtual Private Network (VPN) over the Internet.

How do I work with transitory connection to the repository?

The first time you right-click within the Windows Explorer when your repository is inaccessible, you get a short delay and a "Cannot connect to repository" error. Then, CS-RCS retains its mode and does not try to establish repository connection on further right-clicks. When your repository is re-connected, activate the *Document Explorer* to restore CS-RCS full functionality.

How can I boost the *Scan New Files* command performance?

First, verify the CS-RCS cache is active. To do so, right-click on the *Document Archive* icon and select *Properties*. Switch to the *Advanced* tab and check the *Cache RCS Data* option. (The CS-RCS cache is active by default.)

The Scan New Files command searches the repository tree for new RCS files and then computes their CS-RCS status. This operation is sometimes time consuming. Since this information is cached, further Scan New Files and Refresh commands will do much faster.

How do I remove the CS-RCS Explorer context menus?

- Activate *RegEdit* (Start | Run... and type regedit)
- Remove the key: HKEY_CLASSES_ROOT*\shellex\ContextMenuHandlers\CS-RCS
- Remove the key: HKEY_CLASSES_ROOT\Directory\shellex\ContextMenuHandlers\CS-RCS
- Exit *RegEdit*

How do I remove the Document Archive icon from the desktop?

- Activate *RegEdit*. (Start | Run... and type regedit)
- Remove the key: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\ CurrentVersion\Explorer\Desktop\NameSpace\{a6ccc050-e0bd-11cf-a333-60a052000000}
- Exit *RegEdit*
- Press F5 on the desktop (or simply reboot).

How can I re-enable all CS-RCS information messages?

- Activate *RegEdit* (Start | Run... and type regedit)
- Remove the key: HKEY_CURRENT_USER\Software\ComponentSoftware\CS-RCS\Messages
- Exit *RegEdit*

Common RCS Keywords

$Header: $ -- A standard header containing the full pathname of the RCS file, the revision number, the date and time, the author, the state, and the locker (if locked).

$Id: $ -- A standard header containing the RCS file name, the revision number, the date and time, the author, the state, and the locker (if locked).

$Log: $ -- Complete history of the file including the log message supplied during checkin.

$Author: $ -- The login name of the user who checked in the revision.

$Date: $ -- The date and time the revision was checked in.

$Locker: $ -- The login name of the user who locked the revision (empty if not locked).

$Revision: $ -- The revision number assigned to the revision.

$Name: $ -- The symbolic name used to check out the revision, if any.

$RCSfile: $ -- The name of the RCS file without a path.

$Source: $ -- The full pathname of the RCS file.

Note: Since keyword expansion can slow-down check-in and check-out operations and cause unnecessary compilations, you may want to use keywords on specific files only.

Check-in Dialog

- **Description and comments** – Free text to describe the reason of change. (**Tip:** When checking in a new revision, press Review Changes and copy and paste sections into the Description and Comments field. This will help you keep track of the changes in that version.)

- **Symbolic name** – Use a symbolic name to emphasize major revisions. Symbolic names may contain any combination of characters but cannot include spaces.

- **Review Changes** – You can see what was changed since the last revision by pressing **Review Changes**.

- **Retain Lock** – In a workgroup environment, when you lock a file, nobody else can check-in or check-out the same file. If you want other users to be able to check-in or check-out the file, uncheck the **Retain Lock** option.

Check-out Warning Dialog

This dialog box indicated your working file is different from the archive head. Normally, this happens when you edit your working files. In workgroup environment, another common reason is the archive file has been updated by a co-worker.

- Press **OK** to confirm working file overwrite.
- Press **OK for All** to confirm working file overwrite for all file in this multiple file operation.
- Press **Cancel** to avoid working file overwrite.
- Press **Review Changes** to analyze the differences between the archive head and yours working copy.
- **Retain Lock** – In a workgroup environment, when you lock a file, nobody else can check-in or check-out the same file. If you want other users to be able to check-in or check-out the file, uncheck the **Retain Lock** option.

Mark Revision Dialog

This dialog box includes the following properties:

- **Symbolic name** – All documents within the project (excluding *Deleted* files) are marked with this symbolic name. Later, you can easily retrieve the project revision using this symbolic name.

- **Description** – *Modified* files within the project are checked-in using this description.

Retrieve Revision Dialog

This dialog box includes the following properties:

- **Head Revision** – Retrieves the newest revision of the RCS repository.
- **By date** – Retrieves the project revision as it was on a specific date.
- **By symbolic name** – Retrieves the project revision as it marked as a milestone.
- **Retrieve to** – The default working tree root for this retrieve operation. (read-only field)
- **Retrieve to alternate** – Specify the actual working tree root for this retrieve operation. (For instance, you may use this option to retrieve any revision to a production server.)
- **Show retrieve fail messages** – When retrieving by date or by name, new files and deleted files are expectedly can not be retrieved. Clear this option to mask these expected error messages.

Reports Dialog

This dialog box includes the following options:

- Specify the desired fields and order on the *Reports fields* table. (To add a field, select on the *Exclude fields* table and click *Add* or double-click on the field name.)
- Select the sort key on the *Sort by* table. Choose *Ascending* or *Descending* as desired.
- To report a range, specify an alphanumeric string on the *From* and/or *To* fields. The specified filter is used to determine the report range according to the report sort key.
- Choose *Text* for text reports. Text reports can be imported by any Windows spreadsheet, database or report-generator. Choose *HTML* for HTML reports. HTML reports can be published on the Web. Then, using any browser, they can be examined and printed.
- Choose *Preview* to preview your report.
- Choose *Report…* to generate a report to a file.
- Choose *Close* to close this dialog.

The Milestone Library Dialog

This dialog box gives you the following options:

- Press **Add…** to define a new milestone.
- Press **Remove…** to remove the selected milestone.
- Press **Edit…** to edit the selected milestone. (Click on the milestone's label to rename it.)
- Press **Report all…** to generate a report for all defined milestones. (Refer to the *Project Reports* section for full details on the CS-RCS report generator.)
- Select an action and Press **Go…** to perform an action on the selected milestone.

Edit Milestone Dialog

This dialog box includes the following properties:

- Milestone name – Specify the desired Milestone name.
- Description and comments – Describe the reason for this milestone.
- Milestone criteria – Specify the time and date of this milestone. Alternatively, provide an RCS symbolic name that defines the milestone. (*Note:* The second method is to be used mainly with legacy RCS files.)
- Milestone type – Select *Major* to indicate major releases. Select *Minor* to indicate intermediate releases. Select *Temporary* to indicate internal releases.

  Notes:

  - To "freeze" the project's current state, be sure none of the files is currently modified by any user. (That is, all files in the project are either *Archived* or *Locked*.)
  - Advanced users might consider to mark each RCS file with an RCS symbolic name as well. For full details, refer to the *Mark* command of the CS-RCS command-line interface.

Retrieve Milestone Dialog

This dialog box includes the following properties:

- Retrieve to – Specify the actual working tree root for this retrieve operation. (For instance, you may use this option to retrieve any revision to a production server.) Click the *Browse…* button to browse for the desired folder.

- Set read-only – Clear this option to produce output files with a read-write permission.

- Set modification time to current time – Clear this option to produce output files with modification time identical to the files' original check-in time. (This feature is useful is you wish to perform folder comparison. However, it should be used with care since it might confuse *make* utilities.)

- Use UNIX line-break sequence – By default, CS-RCS produce working files using the DOS/Windows line-break sequence conventions. Clear this option to produce output files with the UNIX line-break sequence conventions. (This feature is useful is you wish to use UNIX tools to process the output files.)

Edit Project Dialog

This dialog box includes the following properties:

- *Project name* – Specify the desired project name.
- *Created by (read-only)* – Project creator name.
- *Project type*:
  - Select *Central repository* to specify a sub-tree of the central repository.
  - Select *Alternate repository* to define a project stored on an external RCS repository tree. (This feature is usually used to access documents of other department or other company.)
- *Project work root* – Specify the work root of the project. Press the **Browse…** button**.** Select *C* and then *PROJECT1*.
- *Project archive root* – This field is applicable to alternate repositories only. (*Central repository* projects are mapped to the central repository using the normal ComponentSoftware RCS mapping conventions.)

Note: Advanced users can define sub-projects using the same method. As an example, create a sub-folder named *C:\Project1\Doc* and map it to a new project named *PROJECT1 Documents*. Operations on the *PROJECT1 Documents* project will affect files within the *Doc* sub-folder. Operations on the *PROJECT1* project will affect all files within the *C:\PROJECT1* tree.

WorkstationProjectDialog

This dialog box includes the following properties:

- *Local work root* – By default, all workstations have the same working directory structure as derived from the repository structure. Whenever desired, you may specify a local working directory root for the selected project. (For instance, you may want to map the working folders to a portable media.)

- *Create desktop shortcut* – Check this option to create a *Document Explorer* desktop shortcut for this project.

Note: Working-file to repository-file mapping is done using a best-fit method.