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Overview of PVCS Version Control

Version Control Tasks

Check Out a File

Use the Check Out toolbar button to retrieve a file from an <u>archive</u> for browsing, editing, or printing. **Note:** If you check out a form, you also need to check out the associated .PAS file.

To select and check out a file,

1. Select the file or revision you want to check out in the All Workfiles list in the PVCS Project window. You can also select multiple workfiles in the Project Archive List (right pane of the Project window when you click on a project folder) to check out the tip revision of each file.
2. Click the Check Out toolbar button.

Dialog Options

Check Out Options
▶   **Read only:** Check out a read-only copy of the <u>workfile</u> without <u>locking</u> the <u>revision</u>.
▶   **Writable:** Check out a writable copy of the workfile(s) without locking the revision.
▶   **Writable with lock:** Check out a writable copy of the workfile(s) and lock the revision using your user ID.

Revision Number

Use the drop-down list to select a revision number, or enter the number of the revision to retrieve. If you don't specify a revision number, the most recent revision will be retrieved.

Version Label

Use the drop-down list to select a <u>version label</u>, or enter the version label of the file to retrieve.

See also

[Check In a File](#)

Check In a File

Use the Check In toolbar button to place a selected workfile in an archive.
Note: If you check in a form, you also need to check in the associated .PAS file.

To check in a file,

1. Select the file or revision you want to archive in the All Workfiles list in the PVCS Project window. You can also select multiple workfiles in the Project Archive List (right pane of the Project window when you click on a project folder) to check in the tip revision of each file.

2. Click the Check In toolbar button.

Dialog Options

Change Description

Enter a description of the changes made to the workfile.

Version Label

If you need to identify the revision as part of a version, enter the version label. You can use any printable characters except colons (:), asterisks (*), or double quotation marks ("). Version labels are case-sensitive. For example, you can't enter the version label BeTA to check out revisions identified by the version label beta.

Keep Locked

Click the Keep Locked box if you want to maintain a lock on the archived file.

Ok to All

If you are checking in multiple files and wish to apply the change description to all files, choose OK to All.

When Do You Check In a File?

You check in a file after you have changed it, and want to make these changes available for use at another time or by another user. The file you check out of an archive is called a workfile. Each time you check in a new variation of a workfile, it becomes a revision. Version Manager assigns the first revision you check in the revision number 1.0, unless you specify otherwise. When you check in a new instance of the same file, it becomes the tip revision, and is assigned the next highest number in sequence.

See also

[Check Out a File](#)

Create an Archive

The first time you check in a file that does not have an <u>archive</u>, the Create Archive dialog box displays for you to create one.

Dialog Options

Archive Directories

Select a directory for the archive file.

Archive Description

Enter a description of the archive.

Version Label

If you need to identify the <u>revision</u> as part of a version, enter the <u>version label</u>. You can use any printable characters except colons (:), asterisks (*), or double quotation marks ("). Version labels are case-sensitive. For example, you can't enter the version label BeTA to check out revisions identified by the version label beta.

Keep Locked

Click the Keep Locked box to maintain a <u>lock</u> on the archive file.

See also

[Check In a File](#)

Add a Version Label

Use the Add Version Label toolbar button or the Insert key to assign a <u>version label</u> to a <u>revision</u>.

To assign a version label to a revision, you can:

▶   Select a revision, press the Insert key, and type the label next to the lock icon.

▶   Select a revision and click the Add Version Label toolbar button. The Add Version Label dialog displays.

▶   Select multiple archives in the Project Archive List pane and click the Add Version Label toolbar button. This will assign the label to the tip revision in each archive. The Add Version Label dialog displays. (The Revision Number field will be disabled because each archive will have different revisions.)

Dialog Options

Version Label

Enter a short word to identify the revision. You can use any printable characters except colons (:), asterisks (*), or double quotation marks ("). Version labels are case-sensitive. For example, you can't enter the version label BeTA to check out revisions identified by the version label beta.

Revision Number

Use the drop-down list to select a revision number, or enter the number of the revision to assign a version label.

Floating Label

Check Floating Label to allow the label you are creating to be assigned to new (tip) revisions as they are checked in. If you do not check Floating Label, the label will remain with the selected revision.

Move If Already Assigned

Check Move If Already Assigned to allow an existing version label to be assigned to a different revision.

Adding or Moving Existing Version Labels

You can use the click and drag method to add an existing version label to a revision in another archive, or to move a version label to another revision in the same archive.

See also

[Delete a Version Label](#)

Delete a Version Label

Use the Delete Version Label toolbar button to delete a version label assigned to a revision.

To delete a version label assigned to a revision, you can:

▶   Select a version label and press the Delete key.
▶   Select a version label and click the Delete Version Label toolbar button. The Delete Version Label dialog box displays.

Dialog Options

Version Label

Enter the name of the version label you want to delete from the archive(s).

See also

[Add a Version Label](#)

Edit a Version Label

Use the Edit Version Label toolbar button to change a <u>version label</u> assigned to a <u>revision</u>.

To change a version label assigned to a revision, you can:

▶ Double-click the version label. A box displays around the label for you to type the new label.

▶ Select the version label and click the Edit Version Label toolbar button. The Edit Version Label Dialog Box displays.

Dialog Options

Old Label Name

Enter the version label you want to change.

New Label Name

Enter the new version label.

Move If Already Assigned

Check the Move If Already Assigned box to allow an existing version label to be assigned to a different revision.

Lock a Revision

Use the Lock Revision toolbar button to place a <u>lock</u> on a <u>revision</u>. When another user tries to access the file you have locked, an error message will display.

To lock a revision,

1. Select the revision or multiple archives in the Project Archive List pane (to lock the tip revision in each archive).

2. Click the Lock Revision toolbar button.

Note: Locking a revision does not:
▶   Cause the actual revision to be copied into your working directory (as Check Out does), or
▶   Alter the read-only status of the workfile.

See also

[Unlock a Revision](#)

Unlock a Revision

Use the Unlock Revision toolbar button to unlock revisions in archives.

To unlock a revision,

1   Select the revision or multiple archives in the Project Archive List pane (to unlock the tip revision in each archive).

2. Click the Unlock Revision toolbar button.

Note: Unlocking a revision does not:
▶   Cause the revision to be checked in, or
▶   Alter the writable status of the workfile.

See also

[Lock a Revision](#)

Display the Archive Report

Use the Archive Report toolbar button to display an <u>archive</u> report which includes summary information about <u>archives</u>, <u>revisions</u>, <u>locks</u>, and <u>version labels</u>. You can use archive reports to:

▶   Examine the history of changes to a file
▶   View a list of version labels and the revisions to which they are assigned
▶   Monitor the status of an entire project by ascertaining which project files are currently locked and by whom

You can report on a workfile or a revision. You can do multiple reports on one file.

To display the report,

1. Select the revision or workfile, or select multiple archives in the Project Archive List pane of the Project window.

2. Choose the Archive Report toolbar button. The report displays in a tabbed editor window.

Display the Visual Difference Report

Use the Visual Difference toolbar button to generate a report of differences between two revisions or between a checked-out file and a revision. For example, you can use a difference report to:

▶ Identify specific differences between revisions of the same file
▶ Determine the changes made to a file before checking it in
▶ Confirm which of two revisions is newer if you are unsure of the timestamp

The report displays in a window with the selected files side by side or stacked for comparison. Colored placeholders identify changes in the file. Using the Visual Difference toolbar, you can customize the display, search for text or changes, and save the report.

To display the report,

1. Select two files. (Note: Form files are text representations containing object descriptors.) You can compare:

▶ A checked-out file and a revision in the same archive
▶ Two revisions in an archive

To display a list of revisions in an archive for selection, click a workfile in the All Workfiles pane.

2. Choose the Visual Difference toolbar button. The report displays in the Visual Difference window.

See also

[View the Visual Difference Report](#)
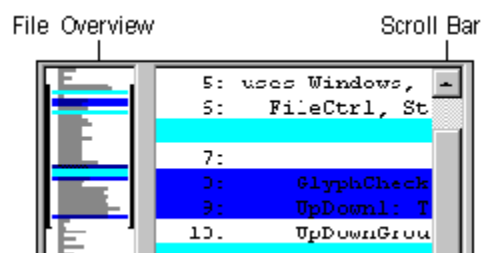
View the Visual Difference Report

The Visual Difference Report displays in a window with the selected files in one of three views:

▶   Single column
▶   Two column
▶   Two column stacked

Changed lines are highlighted in color and correspond to line numbers on the left side of the text.
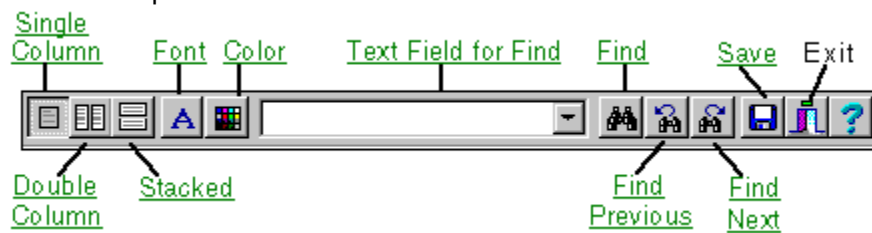
Moving Around in the Report

Use the scroll bars to scroll both files simultaneously. To quickly move to a line or change, click on the file overview graphic.

The Visual Difference Toolbar

Use the Visual Difference toolbar to customize the display, search for text or changes, and save the report.
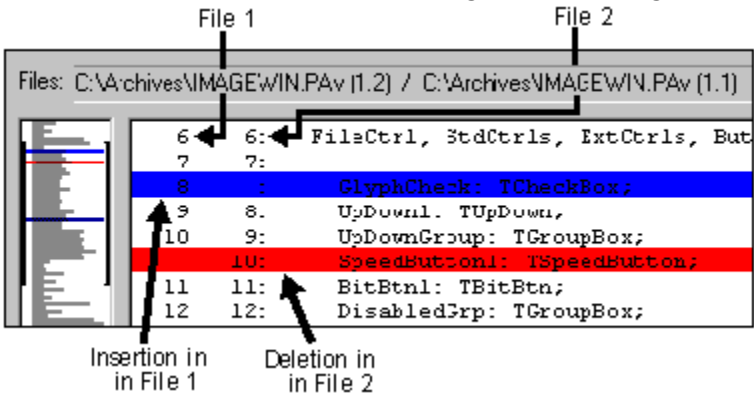
See also

[Display the Visual Difference Report](#)

Single Column

The single column view displays a merged file containing changes from both files. As shown below, changed lines are highlighted in color and correspond to line numbers on the left side of the text. You can customize change colors using the Color toolbar button.

Two Column

The two column view displays the selected files separately.You can change the orientation by selecting the Stacked toolbar button. To quickly move to a line or change, click on the file overview graphic.
The side by side orientation displays the selected files next to each other. Use the scroll bars on the right of the text to scroll both files simultaneously.

Stacked

The stacked orientation displays the selected files on top of each other. Use the scroll bars on the right of the text to scroll both files simultaneously. To quickly move to a line or change, click on the file overview graphic on the left of the text.

Font

Choose the Font toolbar button to select a font for the text in both files. You can also select the font size, style, and color.

Color

Choose the Color toolbar button to change
- The highlight color for a file
- The highlighted space used to keep lines synchronous
- The text color for both files

In the Color dialog, click the box next to each option to display a color palette for selection.

Find Text Field

To search for a text string,

1. Enter the text string in the Find Text field. (Alternatively, you could enter the text string in the Find dialog.) Search text strings are stored in the drop-down list and may be chosen for another search.

2. If you need to specify case sensitivity or the file(s) to be searched, choose the Find toolbar button.

3. Start the search by choosing the Find Previous or Find Next toolbar button.

Find

Choose the Find button to:
- Enter a text string for a search
- Specify the file(s) to be searched
- Specify whether the search should be case-sensitive

Start the search by choosing the Find Previous or Find Next toolbar buttons.

Note: Search text strings are stored in the Find Text field drop-down list for later use if needed.

Find Previous

Choose the Find Previous toolbar button to search backward in the file(s).

Find Next

Choose the Find Next toolbar button to search forward in the file(s).

Save the Visual Difference Report

Choose the Save File toolbar button to display dialogs allowing you to name and save each difference report as a text file in a specified directory.

Manage Archive Directories

If you need to add or remove an <u>archive</u> directory (for example, if you're adding a file or running out of disk space), use Workgroups|Manage Archive Directories.

Archive Directories Dialog Options

To designate an existing archive directory location,

1. Select the archive directory in the Directories list. If you need to display directories on another drive, use the drives drop-down list.
2. Choose Add. The directory displays in the Archive Directories list.
3. Choose OK.

To remove an archive directory location,

1. Select the archive directory in the Archive Directories list.
2. Choose Remove. The directory is removed from the Archive Directories list.
3. Choose OK.

When you remove an archive directory, it is still associated with the project; however, no new archives will be added to it.

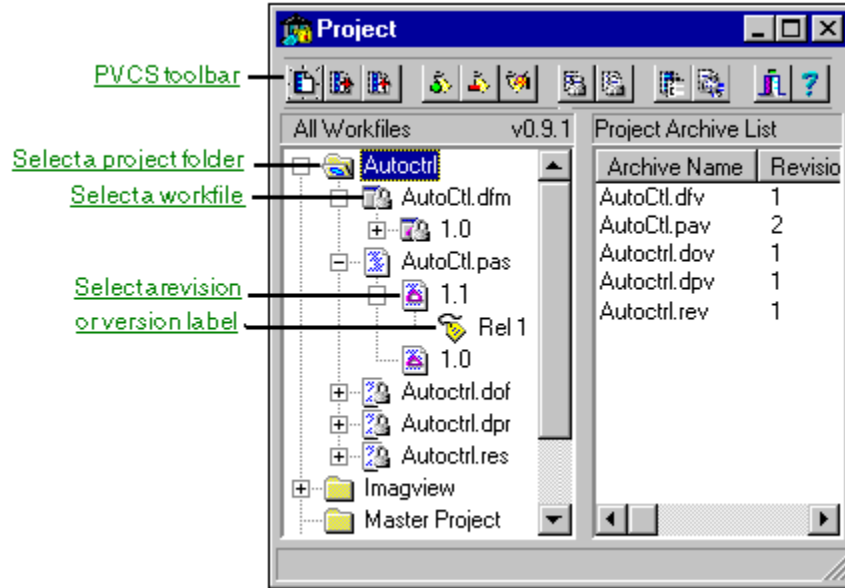## To create a new archive directory,

Choose Create. The <u>Create Directory</u> dialog displays.

The PVCS Project Window

Choose Workgroups|Browse PVCS Project to display the PVCS Project window. Use the toolbar to perform all version control functions. Information displayed on the right side of the window changes depending on what is selected.

See also

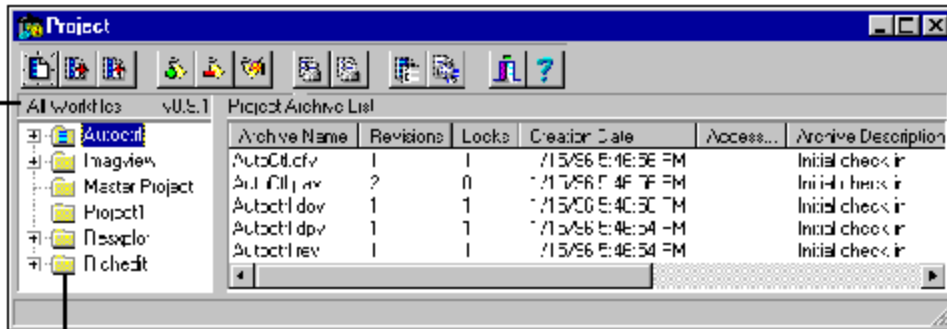[About PVCS Version Control](#)
[How Version Manager Stores Data](#)
[Getting Started With PVCS Version Control](#)

Display the Archive File List

Select a **project folder** to display a list of archive files in the project.

All Workfiles: displays
all PVCS projects

project folder

Display the Revision List

Select a **workfile** to display a list of revisions and information about their creation.
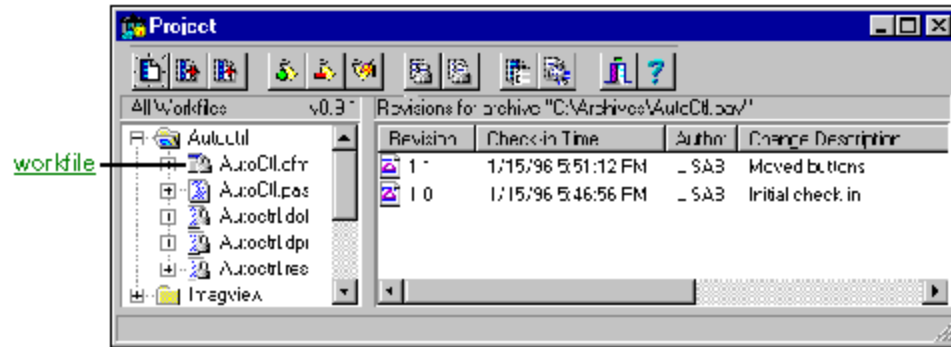
Display Revision Details

Select a **revision** or **version label** to display details about revisions in an archive.

revision

version label

Archive Name:	C:\Archives\AutoCtl.pav
Revision Number	r 1
Author	L SnB
Last Check in	1/15/96 5:01 PM
Last Modification	12/15/90 2:00 AM
Lock Count	0
Branch Count	0

Description

Moved buttons
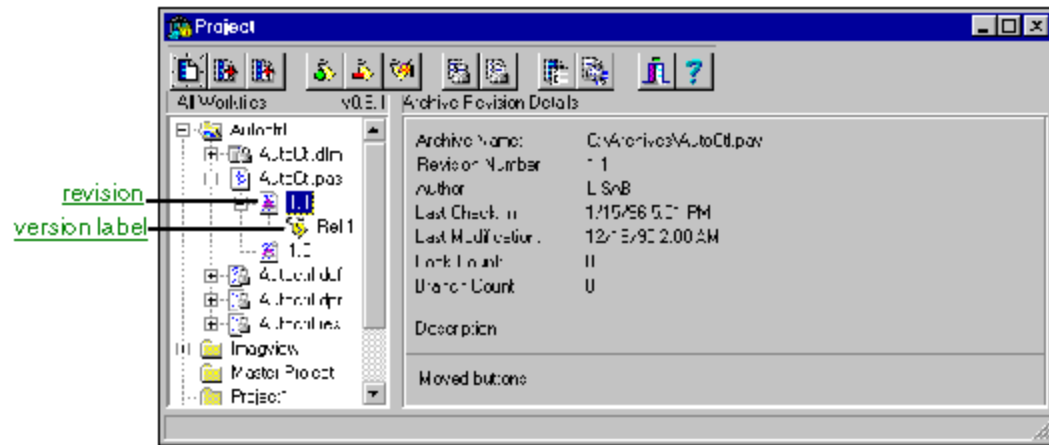
The PVCS Toolbar

You can use the PVCS Toolbar to perform all version control functions. Simply select the item and then click the appropriate button.
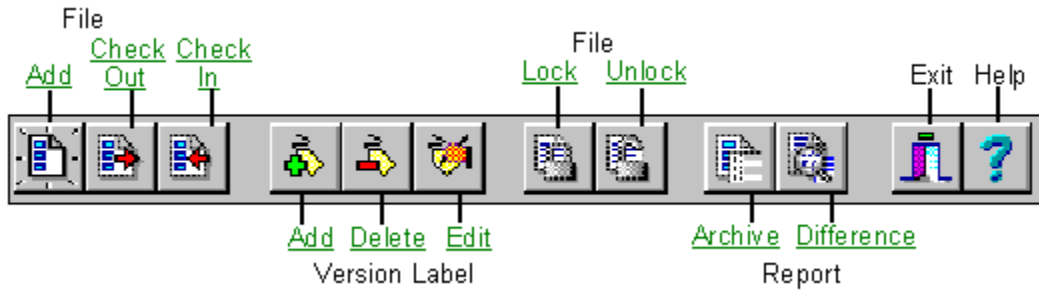
See also

[About PVCS Version Control](#)
[The PVCS Project Window](#)
[Getting Started With PVCS Version Control](#)

About PVCS Version Control

Why Use Version Control?

Accurate tracking and recording of changes to project files is critical. Using the PVCS Version Manager Interface to track these changes gives you access to them at any time. You can also manage multiple versions of your projects and control access to files by locking.

How It Works

PVCS Version Manager stores your files in archives which make it easy for you to reconstruct any revision of a file. When you add a file to your project, you'll check the file into an archive to store a complete copy. (You can choose to check in all files automatically when you create a project.) You can then check out the file from the archive, make changes, and check the file back in.   Each time you check in a new variation, your changes are stored and another revision is added.

How Version Manager Assigns Revisions

Version Manager assigns the first revision you check in number 1.0, unless you specify otherwise. When you check in a new instance of the same file, it becomes the tip revision, and is assigned the next highest number in sequence.

Using Version Labels

As you check out files, you can make them read-only, writable without a lock, or writable with a lock. You can also assign version labels during the check in/check out process to identify a release of a product. Version labels are particularly useful when you want to perform actions on multiple files simultaneously.

Reporting

There are two reports to assist you in version control:
- The Archive Report contains creation and summary information for an archive file.
- The Difference Report shows the differences between two workfiles or revisions.

See also

[How Version Manager Stores Data](#)

Set Data Directories

Use Workgroups|Set Data Directories to specify the location of public and private project root directories. PVCS will use these directories to store subdirectories and files which contain information specific to the projects under PVCS version control.

▶   The **public project root directory** contains a subdirectory for each PVCS project and the data file PVCSPROJ.PUB.

▶   The **private project root directory** contains a subdirectory for each PVCS project in the public project root directory. However, this directory also stores the PVCSPROJ.PRV file, which provides a place for you to change the working directory to which files are checked out for any PVCS project on your workstation. To do this, edit the path in the WKDIR line in the PVCSPROJ.PRV file.

You may have multiple project root directories; however, the Browse PVCS Projects window displays all projects in the public project root directory currently specified in this dialog. You should have a different private root directory for every public project root directory.

Dialog Options

Public Project Root Directory

Enter the location of the public project root directory.

Private Project Root Directory

Enter the location of the private project root directory.

See also

[How Version Manager Stores Data](#)

How Version Manager Stores Data

By default, Version Manager stores project information in the files shown below. Note: .fld files will be created only if you have full-scale Version Manager.

```
📁 Delphi 2.0
  └─📁 Bin
      └─📁 (Public project root)
          ├─📄 Pvcsproj.pub
          ├─📁 (project).prj
          │   ├─📄 (project).cfg
          │   └─📄 Pvsfold.pub
          └─📁 (folder).fld
              └─📄 Pvcsfold.pub
```

```
📁 Win95 or Winnt
  ├─📁 (Private project root)
  │   ├─📄 Pvcsproj.prv
  │   ├─📁 (project).prj
  │   │   └─📄 Pvsfold.prv
  │   └─📁 (folder).fld
  │       └─📄 Pvcsfold.prv
  └─📄 Islv.ini
```
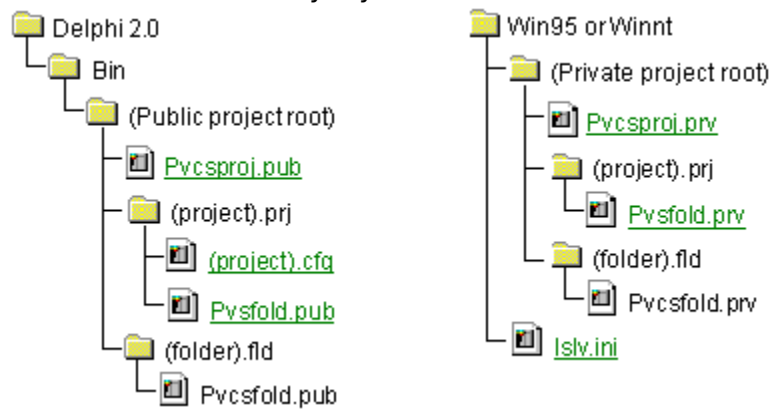
ISLV.INI File

The ISLV.INI file contains the locations of the public and private project directories in the PVCSPROJ and PVCSPRIV directives, respectively.

Examples:

PVCSPROJ=C:\PROGRAM FILES\BORLAND\DELPHI 2.0\BIN\PVCSPROJ

PVCSPRIV=C:\WIN95\PVCSPRIV

PVCSPROJ.PUB File

PVCSPROJ.PUB, the public projects file, contains   information about all projects under PVCS
version control in public directories. It contains the following for each project:
- Project name
- Project subdirectory under the project root directory
- Name and location of the project configuration file
- Working directory to which Version Manager checks out files

PVCSFOLD.PUB File

PVCSFOLD.PUB, the public folders file, contains the directory paths of all archive and workfiles in the project.

PVCSFOLD.PRV File

PVCSFOLD.PRV, the private folders file, contains the directory path of all folders that only you define and only you can open.

(Project).CFG File

The project configuration file contains Version Manager directives set when you create a project.

PVCSPROJ.PRV File

PVCSPROJ.PRV, the private projects file, contains information about all projects under PVCS version control that only you can access. It contains the following for each project:

- ▶ Project name
- ▶ project subdirectory under the project root directory
- ▶ Name and location of the project configuration file
- ▶ Working directory to which Version Manager checks out files

Getting Started With PVCS Version Control

When the PVCS Version Manager interface is first installed, you'll need set public and private directories using Workgroups|Set Data Directories.

▶   **To create a project on your workstation using existing files under version control**, do the following:

1. Open the project window using Workgroups|Browse PVCS Project and select the folder containing the existing files.

2   Select one or more files in the Project Archive List (right side of the Project window).

3. Choose the Check Out toolbar button. The Select Working Directory dialog displays.

▶   **To place a Delphi project under version control**, open the project in Delphi and choose Workgroups|Add (project) to Version Control. The Create Project dialog displays.

▶   **To add a file to a project under version control** (example: an .RTF file), choose the Add File toolbar button.

Select Working Directory

▶   To specify an existing workfile directory, select it in the Directories list and choose OK. If you need to display directories on another drive, use the drives drop-down list.

▶   To create a new workfile directory, select the path for the new directory if applicable. (If you need to display directories on another drive, use the Drives drop-down list.) Then choose Create. The Create Directory dialog displays for you to enter the name of the new workfile directory.

Create a PVCS Project

Use the Create Project dialog to set the configuration of your project.

Create Project Dialog Options

Project Directories

▶ Workfile Directory: Enter the path and directory for files you check out from an archive. To select an existing directory or create a new one, choose Browse. The Select Private Directory dialog displays.
▶ Archive Directory: Enter the path and directory for archive files containing revisions and change information. To select an existing directory or create a new one, choose Browse. The Select Archive Directory dialog displays.

Project Options

Select the following options for project files if applicable.
▶ Create Journal: Create a file of information about version control actions performed on archive files. Each time a project member performs an action that updates an archive, information is recorded in the file. The file is named JOURNAL.VCS and is located in the archive directory specified during project creation. You can view journal entries using any text editor.
▶ Write Protect Archives: Maintain read-only copies of files in the Archive directory.
▶ Write Protect Workfiles: Maintain read-only copies of files in the Workfile directory.

Creation Options

If applicable, select the following options for checking files into the project folder.
▶ Check In All Files: Place all files in your Delphi project under version control and perform the initial check in automatically to create the archive file.
▶ Keep Files Locked: Place a lock on all files upon initial check-in. Others cannot access the files until they are unlocked by the same person (user ID) who created the project.
▶ Prompt for Descriptions: Allow you to enter text describing the file check-in. You can enter one description in the Checking In dialog and apply it to all files in the initial check in.
Note: If you do not check in a file when you create the project, the file will still be included in the PVCS Project Workfile list. When you attempt to check in the file, you can create the archive by choosing OK at the Create Archive message dialog.

Add a File to a PVCS Project

To add a file (example: an .RTF file), to a project under version control, do the following:

1. Choose the Add File toolbar button.

2. Select the file to be added.

3. Create the archive file using the Create Archive dialog.

Select a Workfile Directory

▶ To specify an existing workfile (private) directory, select it in the Directories list and choose OK. If you need to display directories on another drive, use the drives drop-down list.

▶ To create a new workfile directory, select the path for the new directory if applicable. (If you need to display directories on another drive, use the Drives drop-down list.) Then choose Create. The Create Directory dialog displays for you to enter the name of the new workfile directory.

Select an Archive Directory

You must have at least one archive directory associated with each project under version control.

▶ To specify an existing archive directory, select it in the Directories list and choose OK. If you need to display directories on another drive, use the drives drop-down list.

▶ To create a new archive directory, select the path for the new directory if applicable. (If you need to display directories on another drive, use the drives drop-down list.) Then choose Create. The Create Directory dialog displays for you to enter the name of the new archive directory.

Create a Directory

To create a directory, enter the directory name in the Name field and choose OK. The directory will be created in the path listed above the Name field.

Describe an Archive File

To attach a description to the archive file during the initial check in,

1. Enter the description in the space provided.
2. Choose OK to accept the description or OK To All to use the description for all remaining files to be checked in.

To bypass entering a description for the file,

Choose Skip.

archive

An **archive** is a file in which PVCS stores all successive revisions of a workfile. Along with each revision, PVCS stores a description of the changes, the user ID of the person who made the changes, and the date and time when the changes were made. Archives keep a running history of a file's development, which enables you to check out previous revisions for browsing or compiling.

Archive file extensions end with the letter *v*.

lock

A **lock** is the mechanism that PVCS uses to prevent multiple users from modifying the same file at the same time. If you check out a revision with a lock, other users receive an error message if they attempt to check out the same revision with a lock.

revision

To maintain a record of each file's developmental history, PVCS Version Manager stores the changes you make. Each instance of the file is stored in the archive as a **revision.** Along with the changes, the archive contains a description of the changes, the identity of the user who made the changes, and the date and time when the changes were made. This information enables you to recreate any previous instance of a file.

workfile

A **workfile** is the working copy of a file that you check out of an archive for editing, printing, or browsing. It is checked out to the working directory specified in Set Data Directories.

version label

A **version label** is a symbolic name that you assign to a group of related revisions stored in archives. You assign labels to identify revisions that make up a version of your project, such as Version 1.0. Version labels enable you to perform actions on all revisions associated with a particular version at once; for example, you can check out all revisions associated with a version at one time.   You can also use version labels to recreate a previous version of your application.

tip

The oldest revision is called the initial revision and is numbered 1.0.   For each new revision, the second digit increments by one; for example, 1.1 and 1.2. The newest revision in the archive is called the **tip revision.**

PVCS Product Support

INTERSOLV provides technical support for all registered users of this product.   You can contact our technical support staff in these ways:

Compuserve	GO INTERSOLV
Internet	pvcs_answerline@intersolv.com
Fax	1-503-645-6260
Fax PLUS*	1-800-432-3984
	Fax PLUS can instantly send you the latest marketing and technical information on INTERSOLV products 24 hours a day, seven days a week. When you call Fax PLUS, have your fax number handy.
Telephone	1-800-443-1601 (5:30 a.m. to 6:00 p.m., Pacific)
Mail	1700 NW 167th Place
Beaverton, OR 97006
WWW	http://www.intersolv.com
	INTERSOLV provides the following technical support services via its Web site:
	ServiceDirect Online provides access to knowledge and leading-edge technology to help ensure success with the INTERSOLV Development Suite of products. These ServiceDirect Online areas are restricted to customers who have signed up for ServiceDirect annual support. To request access, please complete a contact form at http://www.intersolv.com/contact.html.
	Problem Reporting and Service Requests allow you to enter questions right into our tracking system or query on the status of existing cases.
	KnowledgeBase allows you to search on keywords for technical bulletins.
	You can also download fix releases for your PVCS products.

INTERSOLV provides 30 days of technical support at no charge. If you need support after that time, you can contact us using any of the other methods above or purchase further

telephone support by enrolling in the Support PLUS program. For more information about Support PLUS, please contact your sales representative.