NAME

rcsfile − format of RCS file

DESCRIPTION

An RCS file's contents are described by the grammar below.

The text is free format: space, backspace, tab, newline, vertical tab, form feed, and carriage return (collectively, *white space*) have no significance except in strings. However, white space cannot appear within an id, num, or sym, and an RCS file must end with a newline.

Strings are enclosed by @. If a string contains a @, it must be doubled; otherwise, strings can contain arbitrary binary data.

The meta syntax uses the following conventions: '|' (bar) separates alternatives; '{' and '}' enclose optional phrases; '{' and '}*' enclose phrases that can be repeated zero or more times; '{' and '}+' enclose phrases that must appear at least once and can be repeated; Terminal symbols are in **boldface**; nonterminal symbols are in *italics*.

rcstext	::=	*admin* {*delta*}* *desc* {*deltatext*}*	
admin	::=	**head**	{*num*}**;**
		{ **branch**	{*num*}**;** }
		access	{*id*}***;**
		symbols	{*sym* **:** *num*}***;**
		locks	{*id* **:** *num*}***;** {**strict** **;**}
		{ **comment**	{*string*}**;** }
		{ **expand**	{*string*}**;** }
		{ *newphrase* }*	
delta	::=	*num*	
		date	*num***;**
		author	*id***;**
		state	{*id*}**;**
		branches	{*num*}***;**
		next	{*num*}**;**
		{ *newphrase* }*	
desc	::=	**desc**	*string*
deltatext	::=	*num*	
		log	*string*
		{ *newphrase* }*	
		text	*string*
num	::=	{*digit* | **.**}+	
digit	::=	**0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9**	
id	::=	{*num*} *idchar* {*idchar* | *num*}*	
sym	::=	{*digit*}* *idchar* {*idchar* | *digit*}*	
idchar	::=	any visible graphic character except *special*	
special	::=	**$** | **,** | **.** | **:** | **;** | **@**	
string	::=	**@**{any character, with **@** doubled}***@**	
newphrase	::=	*id word** **;**	
word	::=	*id* | *num* | *string* | **:**	

Identifiers are case sensitive. Keywords are in lower case only. The sets of keywords and identifiers can overlap. In most environments RCS uses the ISO 8859/1 encoding: visible graphic characters are codes 041−176 and 240−377, and white space characters are codes 010−015 and 040.

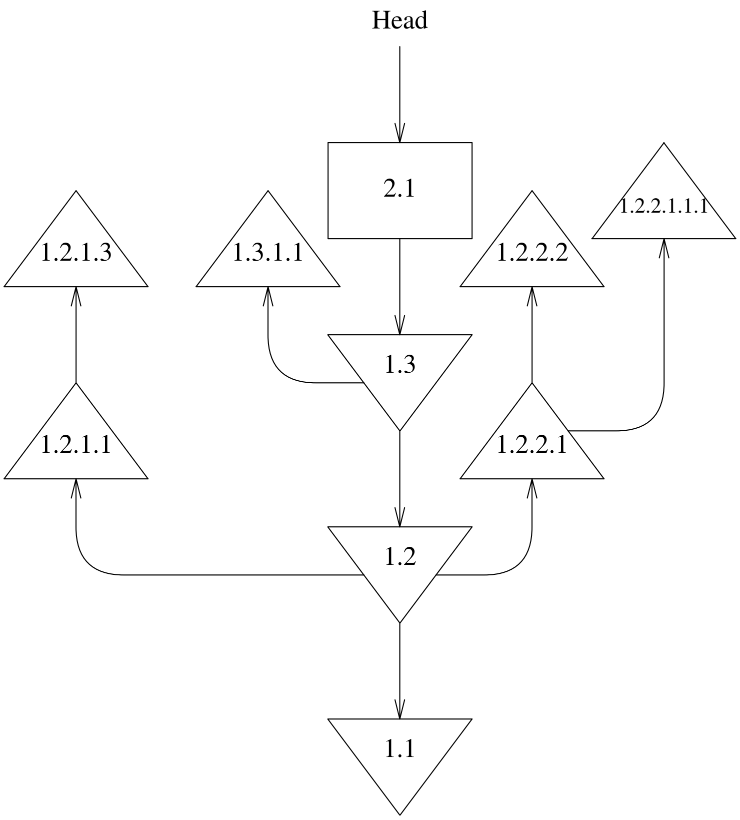
Dates, which appear after the **date** keyword, are of the form *Y***.***mm***.***dd***.***hh***.***mm***.***ss*, where *Y* is the year, *mm* the month (01−12), *dd* the day (01−31), *hh* the hour (00−23), *mm* the minute (00−59), and *ss* the second (00−60). *Y* contains just the last two digits of the year for years from 1900 through 1999, and all the digits of years thereafter. Dates use the Gregorian calendar; times use UTC.

The *newphrase* productions in the grammar are reserved for future extensions to the format of RCS files. No *newphrase* will begin with any keyword already in use.

The *delta* nodes form a tree. All nodes whose numbers consist of a single pair (e.g., 2.3, 2.1, 1.3, etc.) are on the trunk, and are linked through the **next** field in order of decreasing numbers. The **head** field in the *admin* node points to the head of that sequence (i.e., contains the highest pair). The **branch** node in the admin node indicates the default branch (or revision) for most RCS operations. If empty, the default branch is the highest branch on the trunk.

All *delta* nodes whose numbers consist of $2n$ fields ($n \geq 2$) (e.g., 3.1.1.1, 2.1.2.2, etc.) are linked as follows. All nodes whose first $2n-1$ number fields are identical are linked through the **next** field in order of increasing numbers. For each such sequence, the *delta* node whose number is identical to the first $2n-2$ number fields of the deltas on that sequence is called the branchpoint. The **branches** field of a node contains a list of the numbers of the first nodes of all sequences for which it is a branchpoint. This list is ordered in increasing numbers.

The following diagram shows an example of an RCS file's organization.



IDENTIFICATION

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SEE ALSO

rcsintro(1), ci(1), co(1), ident(1), rcs(1), rcsclean(1), rcsdiff(1), rcsmerge(1), rlog(1)

Walter F. Tichy, RCS—A System for Version Control, *Software—Practice & Experience* **15**, 7 (July 1985), 637-654.