

# **The *changes*-package**

Manual change markup — version 0.5.4

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## Inhaltsverzeichnis

<b>1</b>	<b>Introduction</b>	<b>3</b>
<b>2</b>	<b>User interface of the <i>changes</i>-package</b>	<b>3</b>
2.1	Used packages	3
2.2	Options	4
2.3	New commands	4
2.3.1	Change management	5
2.3.2	User specific adaptations	6
<b>3</b>	<b>Authors</b>	<b>7</b>
<b>4</b>	<b>Versions</b>	<b>7</b>
<b>5</b>	<b>Distribution, Copyright, License</b>	<b>9</b>
<b>6</b>	<b>The documented sourcecode</b>	<b>10</b>
6.1	Package information and options	10
6.2	Definitions	12
6.3	management of authors	13
6.4	Change commands	14
6.5	List of changes	16



## 1 Introduction

This package provides manual change markup.

Any comments, thoughts or improvements are welcome. The package is maintained with sourceforge, please see

<http://changes.sourceforge.net/>

for source code access, bug and feature tracker, forum etc. If you want to contact me directly, please send an email to [ekleinod@edgesoft.de](mailto:ekleinod@edgesoft.de), please start your mail subject with [changes].

README: The changes-package allows users to manually markup changes of text such as additions, deletions, or replacements. Changed text is shown in a different colour; deleted text is striked out. The package allows free defining of additional authors and their associated colour. It also allows you to define a markup for authors or annotations.

## 2 User interface of the *changes*-package

For activating manual change management, address the *changes*-package as follows:

```
\usepackage{changes}
```

Options for the package are described in [Abschnitt 2.2](#).

### 2.1 Used packages

The *changes*-package uses already existing packages. The following packages have to be installed for the *changes*-package; otherwise errors may occur.

You will find detailed description of the packages in their distributions.

**ifthen** provides an enhanced `\if`-command as well as a `while`-loop

**pdfcolmk** solves the problem of coloured text and page breaks (with `pdflatex`)

**ulem** striking out texts

**xcolor** provides colourised markup of texts

**xkeyval** provides options with key-value-pairs

## 2.2 Options

### **draft**

The *draft*-option enables markup of changes. The list of changes is available via `\listofchanges`. This option is the default option, if no other option is selected.

The *changes* package reuses the declaration of *draft* in `\documentclass`. The local declaration of *final* overrules the declaration of *draft* in `\documentclass`.

```
\usepackage[draft]{changes}
```

### **final**

The *final*-option disables markup of changes, only the correct text will be shown. The list of changes is disabled, too.

The *changes* package reuses the declaration of *final* in `\documentclass`. The local declaration of *draft* overrules the declaration of *final* in `\documentclass`.

```
\usepackage[final]{changes}
```

### **ulem**

All options for the *ulem* package can be specified as parameters of the *ulem*-option. Two or more options have to be embraced in curly brackets.

```
\usepackage[ulem=normalem]{changes}  
\usepackage[ulem={normalem,normalbf}]{changes}
```

### **xcolor**

All options for the *xcolor* package can be specified as parameters of the *xcolor*-option. Two or more option have to be embraced in curly brackets.

```
\usepackage[xcolor=dvipdf]{changes}  
\usepackage[xcolor={dvipdf,gray}]{changes}
```

## 2.3 New commands

This section describes all new commands of the *changes*-package.

### 2.3.1 Change management

`\added`

The command `\added` marks new text. The new text is the mandatory argument for the command, thus it is written in curly braces. There are two optional arguments: `author-id` and `remark`. The `author-id` has to be defined using `\definechangesauthor`. Use an empty author for an anonymous remark.

*Definition* `\added[<author-id>][<remark>]{<new text>}`

*Beispiel* This is `\added[EK]{new}` text.  
 This is `newEK` text.  
 This is `\added[][anonymous]{new}` text.  
 This is `new1` text.

`\deleted`

The command `\deleted` marks deleted text. For arguments see `\added`.

*Definition* `\deleted[<author-id>][<remark>]{<deleted text>}`

*Beispiel* This is `\deleted[][unnecessary]{bad}` text.  
 This is `bad2` text.

`\replaced`

The command `\replaced` marks replaced text. Mandatory arguments are new and old text. For optional arguments see `\added`.

*Definition* `\replaced[<author-id>][<remark>]{<new text>}{<old text>}`

*Beispiel* This is `\replaced[EK]{nice}{ugly}` text.  
 This is `niceuglyEK` text.

`\listofchanges`

The command `\listofchanges` outputs a list of changes. The first  $\LaTeX$ -run creates an auxiliary file, the second run uses the data of this file. Therefore you need two  $\LaTeX$ -runs for an actual list of changes.

*Definition* `\listofchanges`

### 2.3.2 User specific adaptations

`\definechangesauthor`

The command `\definechangesauthor` defines a new author for changes. You have to define a unique author-id and a corresponding colour. Special characters or spaces are not allowed in the author-id. The name of the author can optionally be defined, it is used in the list of changes.

*Definition* `\definechangesauthor[<author-name>]{<author-id>}{<colour>}`

*Beispiel* `\definechangesauthor{EK}{orange}`  
`\definechangesauthor[Ekkart Kleinod]{EK}{orange}`

`\setlocextension`

The command `\setlocextension` sets the extension of the auxiliary file for the list of changes. The default extension is "loc". In the example, the auxiliary file for "foo.tex" would be named "foo.changes".

*Definition* `\setlocextension{<extension>}`

*Beispiel* `\setlocextension{changes}`

`\setauthormarkup`

The command `\setauthormarkup` sets the layout of the authormarkup in the text. The default markup is a superscripted author-id on the right side of the changed text.

Values for position (optional): `left` = left of the changes; all other values: right  
Values for definition: any  $\TeX$ -commands, author-id can be shown using "#1".

*Definition* `\setauthormarkup[<position>]{<definition>}`

*Beispiel* `\setauthormarkup{(#1)}`  
`\setauthormarkup[left]{(#1)~---}`  
`\setauthormarkup{\marginpar{#1}}`  
`\setauthormarkup[right]{}`

`\setremarkmarkup`

The command `\setremarkmarkup` sets the layout of the remarkmarkup in the text. The default markup sets the remark in a footnote.

Values for definition: any  $\TeX$ -commands, author-id can be used with "#1", remark can be shown using "#2". Using the author-id you can use the author's colour with `Changes@Color#1`.

*Definition* `\setremarkmarkup{<definition>}`

*Beispiel* `\setremarkmarkup{(#2:#1)}`  
`\setremarkmarkup{\footnote{#1:\textcolor{Changes@Color#1}{#2}}}`

### 3 Authors

The *changes* packages was written by several authors. The authors are (in alphabetical order):

- Chiaradonna, Silvano
- Kleinod, Ekkart
- Wolter, Steve

### 4 Versions

#### Version 0.5.4

Date: 2011/04/25

- extraction of user documentation in separate file
- default language changed to English
- new script for removal of *changes* commands by Silvano Chiaradonna

#### Version 0.5.3

Date: 2010/11/22

- document options of `\documentclass` are used as well (suggestion and code of Steve Wolter)

### **Version 0.5.2**

Date: 2007/10/10

- package options for *pdfcolmk*, *ulem*, and *xcolor* are passed to the packages

### **Version 0.5.1**

Date: 2007/08/27

- deleted text is striked out again using package *ulem*, greying didn't work

### **Version 0.5**

Date: 2007/08/26

- no usage of package *arrayjob* anymore, thus no errors using package *array*
- switch to UTF-8-encoding
- no usage of package *soul* anymore, thus no errors using UTF-8-encoding
- markup for deleted text changed to gray background, because there's no possibility to conveniently strikeout UTF-8-text
- new optional argument for author name
- coloured list of changes
- changed loc file format
- improved English documentation

### **Version 0.4**

Date: 2007/01/24

- included *pdfcolmk* to solve problem with coloured text and page breaks
- extended `\setremarkmarkup` with author-id for using colour in remarks
- remarks are by default coloured now
- first version uploaded to CTAN

### **Version 0.3**

Date: 2007/01/22

- english user-documentation
- replaced `\changed` with `\replaced`
- improved `final`-option: no additional space

## Version 0.2

Date: 2007/01/17

- defined loc-names when missing *babel*-package
- `\setauthormarkup`, `\setlocextension`, `\setremarkmarkup new`
- generated examples
- inserted LPPL

Bugfixes

- fixed wrong *ifthen*-placement
- fixed error in loc, always showing "added"
- fixed authormarkup (`\if`-condition not bugfree)

## Version 0.1

Date: 2007/01/16

- initial version
- commands `\added`, `\deleted`, and `\changed`

## 5 Distribution, Copyright, License

Copyright 2007-2011 Ekkart Kleinod ([ekleinod@edgesoft.de](mailto:ekleinod@edgesoft.de))

This work may be distributed and/or modified under the conditions of the  $\text{\TeX}$  Project Public License, either version 1.3 of this license or any later version. The latest version of this license is in

<http://www.latex-project.org/lppl.txt>

and version 1.3 or later is part of all distributions of  $\text{\TeX}$  version 2005/12/01 or later.

This work has the LPPL maintenance status "maintained". The current maintainer of this work is Ekkart Kleinod.

This work consists of the files

```
doc/latex/changes/examples/changes.example.1.de.tex
doc/latex/changes/examples/changes.example.2.de.tex
doc/latex/changes/examples/changes.example.3.de.tex
doc/latex/changes/examples/changes.example.1.de.pdf
doc/latex/changes/examples/changes.example.2.de.pdf
doc/latex/changes/examples/changes.example.3.de.pdf
source/latex/changes/changes.drv
source/latex/changes/changes.dtx
source/latex/changes/changes.ins
source/latex/changes/README
scripts/changes/delcmdchanges.bash
```

and the derived files

```
doc/latex/changes/changes.english.full.pdf
doc/latex/changes/changes.english.short.pdf
doc/latex/changes/changes.ngerman.full.pdf
doc/latex/changes/changes.ngerman.short.pdf
tex/latex/changes/changes.sty
```

## 6 The documented sourcecode

The sourcecode is documented in English only. This is intended, please do not provide translations for the text below, just corrections or improvements.

### 6.1 Package information and options

```
1 ⟨*changes⟩
```

Set needed  $\LaTeX$ -format to  $\LaTeX 2_{\epsilon}$ , provide name, date, version. Type some information to the console.

```
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{changes}
4 [2011/04/25 v0.5.4 changes-Paket]
5 \typeout{*** changes-Paket 2011/04/25 v0.5.4 ***}
```

Package *xkeyval* provides options with key-value-pairs.

```
6 \RequirePackage{xkeyval}
```

Package *ifthen* provides improved if as well as a while-loop.

```
7 \RequirePackage{ifthen}
```

## Options

Option `draft`, default is `true`.

```

8 \newboolean{Changes@optiondraft}
9 \setboolean{Changes@optiondraft}{true}
10 \DeclareOptionX{draft}{
11 \setboolean{Changes@optiondraft}{true}
12 \typeout{changes-option '\CurrentOption'}
13 }
```

Option `final`, sets `draft` to `false`.

```

14 \DeclareOptionX{final}{
15 \setboolean{Changes@optiondraft}{false}
16 \typeout{changes-option '\CurrentOption'}
17 }
```

Options for package `ulem` are directly passed to the package.

```

18 \DeclareOptionX{ulem}{
19 \typeout{ulem-option '#1', passed to package ulem}
20 \PassOptionsToPackage{#1}{ulem}
21 }
```

Options for package `xcolor` are directly passed to the package.

```

22 \DeclareOptionX{xcolor}{
23 \typeout{xcolor-option '#1', passed to package xcolor}
24 \PassOptionsToPackage{#1}{xcolor}
25 }
```

Unknown options generate package warning.

```

26 \DeclareOptionX*{
27 \PackageWarning{Unknown changes-option '\CurrentOption'}
28 }
```

Process the options.

```

29 \ProcessOptionsX*\relax
```

Package `xcolor` provides coloured text.

```

30 \RequirePackage{xcolor}
```

Package `pdfcolmk` solves the problem of coloured text and page breaks (has to be loaded after `xcolor`).

```

31 \RequirePackage{pdfcolmk}
```

Package `ulem` provides commands for striking out text.

```
32 \RequirePackage{ulem}
```

## 6.2 Definitions

Declaration of language dependent names and identifiers. The check for `\addto` is a check for the `babel` package. If the `babel` package is not loaded, the default language is English, in order to use an own language, the user has to redefine the variables.

```
33 \ifthenelse{\isundefined{\addto}}
34 {
35 \def\listchangesname{Changes}
36 \def\changesaddname{Added}
37 \def\changesdeletename{Deleted}
38 \def\changesreplacename{Replaced}
39 \def\changesauthorname{Author}
40 \def\changesanonymousname{anonymous}
41 \def\changesnoloc{List of changes is available after the next \LaTeX\ run.}
42 }{
43 \addto\captionsngerman{\def\listchangesname{"Anderungen}}
44 \addto\captionsgerman{\def\listchangesname{"Anderungen}}
45 \addto\captionsenglish{\def\listchangesname{Changes}}
46
47 \addto\captionsngerman{\def\changesaddname{Eingef\ "ugt}}
48 \addto\captionsgerman{\def\changesaddname{Eingef\ "ugt}}
49 \addto\captionsenglish{\def\changesaddname{Added}}
50
51 \addto\captionsngerman{\def\changesdeletename{Gel\ "oscht}}
52 \addto\captionsgerman{\def\changesdeletename{Gel\ "oscht}}
53 \addto\captionsenglish{\def\changesdeletename{Deleted}}
54
55 \addto\captionsngerman{\def\changesreplacename{Ersetzt}}
56 \addto\captionsgerman{\def\changesreplacename{Ersetzt}}
57 \addto\captionsenglish{\def\changesreplacename{Replaced}}
58
59 \addto\captionsngerman{\def\changesauthorname{Autor}}
60 \addto\captionsgerman{\def\changesauthorname{Autor}}
61 \addto\captionsenglish{\def\changesauthorname{Author}}
62
63 \addto\captionsngerman{\def\changesanonymousname{Anonym}}
64 \addto\captionsgerman{\def\changesanonymousname{Anonym}}
65 \addto\captionsenglish{\def\changesanonymousname{anonymous}}
66
67 \addto\captionsngerman{\def\changesnoloc{"Anderungsliste nach dem n\ "achsten \LaTeX-Lauf v
68 \addto\captionsgerman{\def\changesnoloc{"Anderungsliste nach dem n\ "achsten Durchlauf verf
69 \addto\captionsenglish{\def\changesnoloc{List of changes is available after the next \LaTeX
```

70 }

File extension.

71 `\newcommand{\Changes@extension}{loc}`

`\setlocextension` Set a new file extension. Argument: new extension.

72 `\newcommand{\setlocextension}[1]{`

73 `\renewcommand{\Changes@extension}{#1}`

74 }

### 6.3 management of authors

Author counter.

75 `\newcounter{Changes@AuthorCount}`

76 `\setcounter{Changes@AuthorCount}{0}`

77 `\newcounter{Changes@iAuthor}`

`definechangesauthor` Define a new author. Mandatory arguments: author's id and author's colour. Optional argument: author's name.

Store id, name and colour using named variables. Define counter and colour per author.

78 `\newcommand{\definechangesauthor}[3][\@empty]{`

79 `\stepcounter{Changes@AuthorCount}`

80 `\@namedef{Changes@Author\theChanges@AuthorCount}{#2}`

81 `\@namedef{Changes@AuthorName#2}{#1}`

82 `\@namedef{Changes@AuthorColor#2}{#3}`

83 `\newcounter{Changes@AddCount#2}`

84 `\newcounter{Changes@DeleteCount#2}`

85 `\newcounter{Changes@ReplaceCount#2}`

86 `\colorlet{Changes@Color#2}{#3}`

87 }

Define default-author (anonymous) with empty id and blue color.

88 `\definechangesauthor{\@empty}{blue}`

Position of the authors markup relative to the text. `true` = left, `false` = right (default).

89 `\newboolean{Changes@AuthorPositionLeft}`

90 `\setboolean{Changes@AuthorPositionLeft}{false}`

`\Changes@AuthorMark` Markup of the author. Default: superscripted.

```
91 \newcommand{\Changes@AuthorMark}[1]{%
92 \textsuperscript{#1}%
93 }
```

`\setauthormarkup` Redefine the author markup. Mandatory argument: markup definition. Optional argument: markup position (default = left).

```
94 \newcommand{\setauthormarkup}[2][left]{%
95 \ifthenelse{\equal{#1}{left}}
96 {\setboolean{Changes@AuthorPositionLeft}{true}}
97 {\setboolean{Changes@AuthorPositionLeft}{false}}
98 \renewcommand{\Changes@AuthorMark}[1]{#2}
99 }
```

`\Changes@Remark` Markup of remarks. Default: in a footnote.

```
100 \newcommand{\Changes@Remark}[2]{%
101 \footnote{\textcolor{Changes@Color#1}{#2}}%
102 }
```

`\setremarkmarkup` Redefining the remark markup. Mandatory argument: markup definition.

```
103 \newcommand{\setremarkmarkup}[1]{%
104 \renewcommand{\Changes@Remark}[2]{#1}%
105 }
```

## 6.4 Change commands

Temporary variable for exchange of optional parameters between interlocked commands.

```
106 \newcommand{\Changes@temp}{\@empty}
```

`\added` The command formats text as new text. It's rather complicated for defining a command with two optional parameters.

Mandatory argument: added text. Optional arguments: author's id, remark

```
107 \newcommand{\added}[1][\@empty]{%
108 \renewcommand{\Changes@temp}{#1}%
109 \Changes@added%
110 }
111 \newcommand{\Changes@added}[2][\@empty]{%
112 \ifthenelse{\boolean{Changes@optiondraft}}%
113 {%
```

```

114 \textcolor{Changes@Color\Changes@temp}{%
115 \ifthenelse{\boolean{Changes@AuthorPositionLeft}}%
116 {\ifthenelse{equal{\@empty}{\Changes@temp}}%
117 }{\Changes@AuthorMark{\Changes@temp}}%
118 }{}%
119 #2%
120 \ifthenelse{\not\boolean{Changes@AuthorPositionLeft}}%
121 {\ifthenelse{equal{\@empty}{\Changes@temp}}%
122 }{\Changes@AuthorMark{\Changes@temp}}%
123 }{}%
124 \ifthenelse{equal{\@empty}{#1}}%
125 }{\Changes@Remark{\Changes@temp}{#1}}%
126 }%
127 \stepcounter{Changes@AddCount\Changes@temp}%
128 }{#2}%
129 }

```

`\deleted` The command formats text as deleted text. It's rather complicated for defining a command with two optional parameters.

The final-part is taken from a tip from `de.comp.text.tex`. It solves the problem of additional space caused by an empty command.

Mandatory argument: deleted text. Optional arguments: author's id, remark

```

130 \newcommand{\deleted}[1][\@empty]{%
131 \renewcommand{\Changes@temp}{#1}%
132 \Changes@deleted%
133 }
134 \newcommand{\Changes@deleted}[2][\@empty]{%
135 \ifthenelse{\boolean{Changes@optiondraft}}%
136 {%
137 \textcolor{Changes@Color\Changes@temp}{%
138 \ifthenelse{\boolean{Changes@AuthorPositionLeft}}%
139 {\ifthenelse{equal{\@empty}{\Changes@temp}}%
140 }{\Changes@AuthorMark{\Changes@temp}}%
141 }{}%
142 \sout{#2}%
143 \ifthenelse{\not\boolean{Changes@AuthorPositionLeft}}%
144 {\ifthenelse{equal{\@empty}{\Changes@temp}}%
145 }{\Changes@AuthorMark{\Changes@temp}}%
146 }{}%
147 \ifthenelse{equal{\@empty}{#1}}%
148 }{\Changes@Remark{\Changes@temp}{#1}}%
149 }%
150 \stepcounter{Changes@DeleteCount\Changes@temp}%
151 }{\@bsphack \expandafter \@esphack}%
152 }

```

`\replaced` The command formats text as replaced text. It's rather complicated for defining a command with two optional parameters.

Mandatory arguments: new text and old text. Optional arguments: author's id, remark

```
153 \newcommand{\replaced}[1][\@empty]{%
154 \renewcommand{\Changes@temp}{#1}%
155 \Changes@replaced%
156 }
157 \newcommand{\Changes@replaced}[3][\@empty]{%
158 \ifthenelse{\boolean{Changes@optiondraft}}{%
159 {%
160 \textcolor{Changes@Color\Changes@temp}{%
161 \ifthenelse{\boolean{Changes@AuthorPositionLeft}}{%
162 {\ifthenelse{\equal{\@empty}{\Changes@temp}}%
163 }{\Changes@AuthorMark{\Changes@temp}}%
164 }{}}%
165 #2%
166 \sout{#3}%
167 \ifthenelse{\not\boolean{Changes@AuthorPositionLeft}}%
168 {\ifthenelse{\equal{\@empty}{\Changes@temp}}%
169 }{\Changes@AuthorMark{\Changes@temp}}%
170 }{}}%
171 \ifthenelse{\equal{\@empty}{#1}}%
172 }{\Changes@Remark{\Changes@temp}{#1}}%
173 }%
174 \stepcounter{Changes@ReplaceCount\Changes@temp}%
175 }{#2}%
176 }
```

## 6.5 List of changes

`\changes@chopline` Auxiliary command for reading the content of the loc-files. The content is read line by line. One line is parsed with this macro, the order of entries is: id, color, name, added, deleted, replaced. The contents have to be separated by a semicolon.

```
177 \def\changes@chopline#1;#2;#3;#4;#5;#6 \{\
178 \def\Changes@InID{#1}
179 \def\Changes@InColor{#2}
180 \def\Changes@InName{#3}
181 \def\Changes@InAdded{#4}
182 \def\Changes@InDeleted{#5}
183 \def\Changes@InReplaced{#6}
184 }
```

`\listofchanges` This command outputs a list of changes, sorted by authors. The values are read from the loc-file, if it exists. If no loc-file exists, an according message is generated.

```

185 \newcommand{\listofchanges}{%
186 \ifthenelse{\boolean{Changes@optiondraft}}
187 {
188 \section*{\listchangesname}
189 \IfFileExists{\jobname.\Changes@extension}
190 {
191 \newboolean{Changes@MoreLines}
192 \setboolean{Changes@MoreLines}{true}
193 \newread\Changes@InFile
194 \openin\Changes@InFile = \jobname.\Changes@extension
195 \whiledo{\boolean{Changes@MoreLines}}{
196 \read\Changes@InFile to \Changes@Line
197 \ifeof\Changes@InFile
198 \setboolean{Changes@MoreLines}{false}
199 \else
200 \expandafter\changes@chopline\Changes@Line\
201 \begin{tabbing}
202 mm\=mmmmmm\=kill
203 \ifthenelse{\equal{\Changes@InID}}{
204 {\textcolor{\Changes@InColor}{\changesauthorname: \changesanonymous}}\}
205 {\textcolor{\Changes@InColor}{\changesauthorname: \Changes@InID}
206 \ifthenelse{\equal{\Changes@InName}}{
207 { \textcolor{\Changes@InColor}{(\Changes@InName)}}
208 \}
209 }
210 \>\changesaddname: \>\Changes@InAdded\
211 \>\changesdeletename: \>\Changes@InDeleted\
212 \>\changesreplacename: \>\Changes@InReplaced\
213 \end{tabbing}
214 \fi
215 }
216 \closein\Changes@InFile
217 }{
218 \emph{\changesnoloc}
219 }
220 }{
221 }

```

At the end of the document: write the list of changes in the loc-file, therefore open file, write values, close file. Changes are written as  $\LaTeX$ -formatted text, so they can simply be read via `\input`.

The order of entries is: id, color, name, added, deleted, replaced. The contents have to be separated by a semicolon.

```
222 \AtEndDocument{
```

```
223 \newwrite\Changes@OutFile
224 \immediate\openout\Changes@OutFile = \jobname.\Changes@extension
225 \setcounter{Changes@iAuthor}{0}
226 \whiledo{\value{Changes@iAuthor} < \value{Changes@AuthorCount}}{
227 \stepcounter{Changes@iAuthor}
228 \def\Changes@ID{\@nameuse{Changes@Author\theChanges@iAuthor}}
229 \immediate\write\Changes@OutFile{\Changes@ID;%
230 \@nameuse{Changes@AuthorColor\Changes@ID};%
231 \@nameuse{Changes@AuthorName\Changes@ID};%
232 \the\value{Changes@AddCount\Changes@ID};%
233 \the\value{Changes@DeleteCount\Changes@ID};%
234 \the\value{Changes@ReplaceCount\Changes@ID}}
235 }
236 \closeout\Changes@OutFile
237 }

238 </changes>
```