The captcont Package[*]

Steven Douglas Cochran

Digital Mapping Laboratory, School of Computer Science
Carnegie-Mellon University, 5000 Forbes Avenue
Pittsburgh, PA 15213–3890, USA

sdc+@cs.cmu.edu

2002/02/14

Abstract

This article documents the LaTeX package 'captcont', which provides support
for retaining a figure or caption number across several float environments—
usually over several pages. It allows control over the contents of the List-of-
Figures and the List-of-Tables pages. It should be compatible with all other
packages that modify or extend the float environment and with the subfigure
package [1] in particular.

Contents

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[*]This paper documents the captcont package vv2.0, last revised 2002/01/23.

Table 1: captcont package options.

Option	Description
figbotcap	The figure caption follows the figure (default).
figtopcap	The figure caption precedes the figure.
tabbotcap	The table caption follows the figure.
tabtopcap	The table caption precedes the figure (default).

1 Introduction

The captcont package provides support for figures and tables that continue or span two or more pages, but cannot be easily handled by another mechanism such as the longtable package [2] or the supertabular environment [3]. The reason for this is usually that the figure or table is made up of multiple small parts. Therefore this package is typically used in conjunction the subfigure package[1].

This LaTeX 2_ε package replaces the older LaTeX2.09 style fragment written by Anonymous. This is a complete re-implementation of the older style so that the List-of-Figures, List-of-Tables and the \pageref command have the correct page numbers.

2 The User Interface

To use this package place

\usepackage[⟨options⟩]{captcont}

in the preamble of your document. The supported options are shown in table 1.[1] This package redefines the \caption command and defines three new commands to work with it. The new commands act very similar to the caption, but control when the *figure* or *table* counter is incremented and whether or not the caption text shows up in the List-of-Figures or List-of-Tables pages. The commands are:

```
\caption    [⟨lst_entry⟩] {⟨caption⟩}
\caption*   [⟨lst_entry⟩] {⟨caption⟩}
\captcont   [⟨lst_entry⟩] {⟨caption⟩}
\captcont*  [⟨lst_entry⟩] {⟨caption⟩}
```

The \captcont and \captcont* commands do not increment the *figure* or *table* counters and the \captcont* and \caption* commands do not print to the List-of-Figures or List-of-Tables.

If the caption proceeds the figure (*i.e.*, figtopcap or tabtopcap), then for a series of float environments that are to be considered as one figure or table, you begin the first with a \caption or \caption* and use \captcont or \captcont* in each of the the following ones. If the caption follows the figure (*i.e.*, figbotcap or tabbotcap), then you do just the opposite and use \captcont or \captcont* on each of the series of float environments that are to be considered as one figure or table, the use a \caption or \caption* on the very last one.

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[1]If the subfigure package is also loaded, then the subfigure package options override these.

3   Examples

Four examples are given below of the use of the captcont package. The "figures" in each are drawn using the following command which creates a small box representing a figure in the example output and centers provided text in the box. The height of the box is fixed at 15mm and the width varies with the provided text.

```
\newcommand{\figbox}[1]{%
  \fbox{%                    Frame the box to make the ''figure''
    \vbox to 15mm{%          Make it 15mm tall
    \vfil                    Vertically center this next \hbox
    \hbox{%
      \space
      #1%                    Add the supplied text with spaces
      \space}%
    \vfil}}}
```
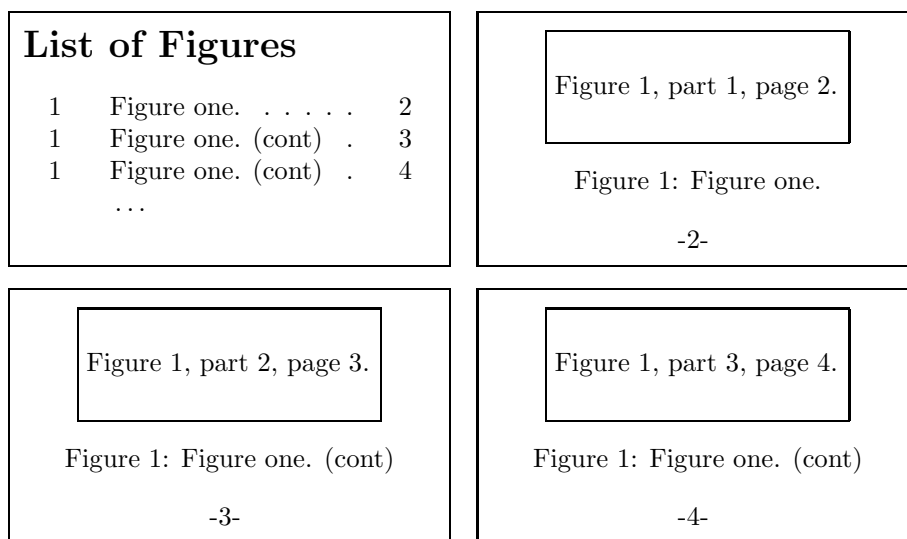
3.1   Two Continued Figures

Example 1 shows the case of a set of three pages containing parts of one figure. In this case the author desires that the caption of each page shows up in the List-of-Figures page. The \caption follows the figure body, so we use the \captcont command on the inital pages and the \caption on the last.

```
\listoffigures
...
\begin{figure}[p]
  \figbox{Figure~\ref{fig:ex1-1}, part 1, page \pageref{fig:ex1-1}}
  \captcont{Figure one.}
  \label{fig:ex1-1}
\end{figure}
\begin{figure}[p]
  \figbox{Figure~\ref{fig:ex1-1}, part 2, page \pageref{fig:ex1-2}}
  \captcont{Figure one. (cont)}
  \label{fig:ex1-2}
\end{figure}
\begin{figure}[p]
  \figbox{Figure~\ref{fig:ex1-1}, part 3, page \pageref{fig:ex1-3}}
  \caption{Figure one. (cont)}
  \label{fig:ex1-3}
\end{figure}
```

Figure 1, part 1, page 2.

Figure 1: Figure one.

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Figure 1, part 2, page 3.

Figure 1: Figure one. (cont)

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Figure 1, part 3, page 4.

Figure 1: Figure one. (cont)

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Example 1: Four pages showing a continued figure with List-of-Figures entries for each.

Often, however, you do not want the continued captions to appear in the List-of-Figures. Therefore the starred forms of the commands are available to suppress the addition of the caption text to the List-of-Figures, as shown in example 2 where only the first caption appears.
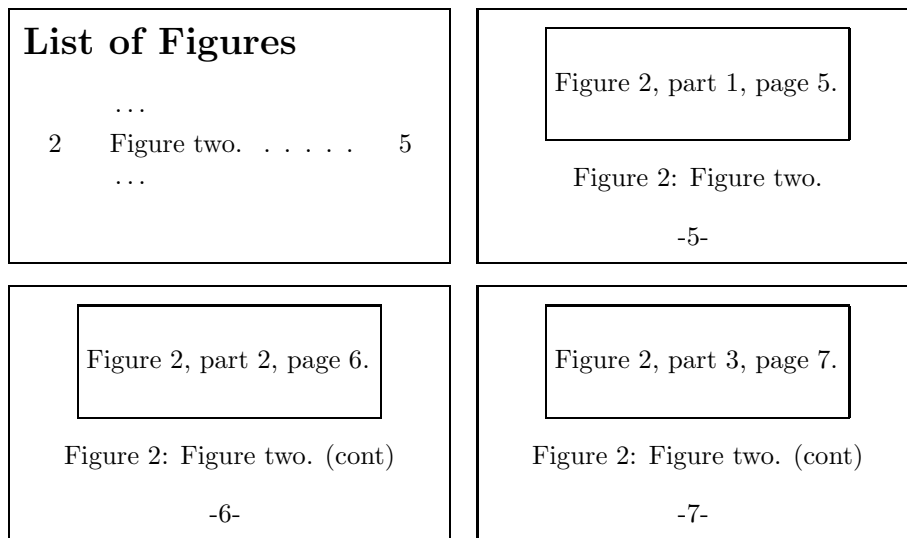
```
\listoffigures
...
\begin{figure}[p]
  \figbox{Figure~\ref{fig:ex2-1}, part 1, page \pageref{fig:ex2-1}}
  \captcont{Figure two.}
  \label{fig:ex2-1}
\end{figure}
\begin{figure}[p]
  \figbox{Figure~\ref{fig:ex2-1}, part 2, page \pageref{fig:ex2-2}}
  \captcont*{Figure one. (cont)}
  \label{fig:ex2-2}
\end{figure}
\begin{figure}[p]
  \figbox{Figure~\ref{fig:ex2-1}, part 3, page \pageref{fig:ex2-3}}
  \caption*{Figure one. (cont)}
  \label{fig:ex2-3}
\end{figure}
```

3.2   A Continued Series of Subfigures

Example 3 shows the interaction of the contcapt and the subfigure packages. When the subfigure package is also loaded, it overrides any options given with this package (it doesn't matter if it is loaded before or after the captcont package). For this and the following example, we assume that the subfigure package was loaded

Figure 2, part 1, page 5.

Figure 2: Figure two.

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Figure 2, part 2, page 6.

Figure 2: Figure two. (cont)
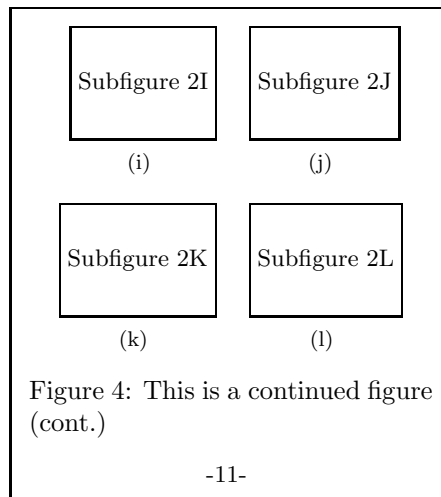
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Figure 2, part 3, page 7.
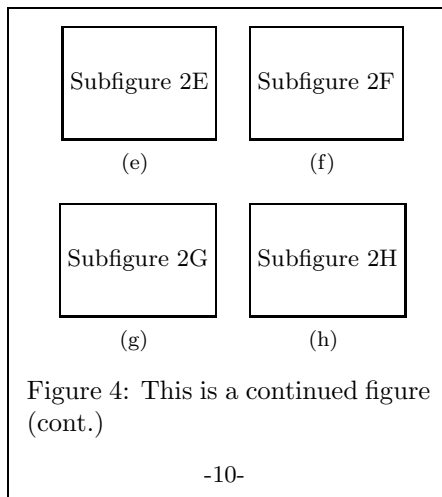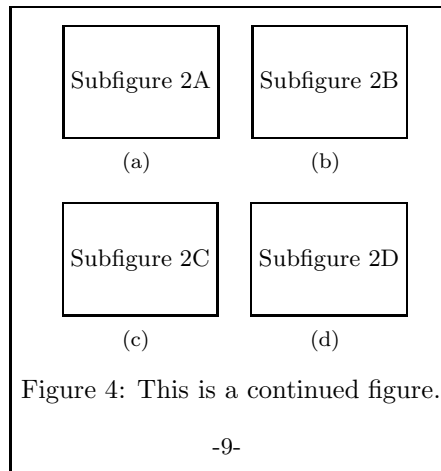
Figure 2: Figure two. (cont)

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Example 2: Four pages showing a continued figure with List-of-Figures entries for the first page only.

with the options [FIGBOTCAP,TABTOPCAP]; therefore, for continued figures and tables, we **end** the series of continued figures and we **begin** the series of continued tables with with a \caption or \caption* command. The rest of the figure or tables parts use either the \captcont or the \captcont* command.

```
\begin{figure}[p]%
  \begin{center}%
    \subfigure[]{\figbox{Subfigure 1A}}%
    \quad
    \subfigure[]{\figbox{Subfigure 1B}}\\
    \subfigure[]{\figbox{Subfigure 1C}}%
    \quad
    \subfigure[]{\figbox{Subfigure 1D}}%
  \end{center}%
  \caption{This is a simple figure.}
  \label{fig:ex3-1}
\end{figure}
```

Subfigure 1A   Subfigure 1B

(a)   (b)

Subfigure 1C   Subfigure 1D

(c)   (d)

Figure 3: This is a simple figure.

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Subfigure 2A   Subfigure 2B

(a)   (b)

Subfigure 2C   Subfigure 2D

(c)   (d)

Figure 4: This is a continued figure.

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Subfigure 2E   Subfigure 2F

(e)   (f)

Subfigure 2G   Subfigure 2H

(g)   (h)

Figure 4: This is a continued figure (cont.)

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Subfigure 2I   Subfigure 2J

(i)   (j)

Subfigure 2K   Subfigure 2L

(k)   (l)

Figure 4: This is a continued figure (cont.)

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Example 3: Four pages showing a regular figure with four subfigures and a continued figure composed of twelve subfigures.

```
\begin{figure}[p]%
  \begin{center}%
    \subfigure[]{\figbox{Subfigure 2A}}%
    \quad
    \subfigure[]{\figbox{Subfigure 2B}}\\
    \subfigure[]{\figbox{Subfigure 2C}}%
    \quad
    \subfigure[]{\figbox{Subfigure 2D}}%
  \end{center}%
  \captcont{This is a continued figure.}
  \label{fig:ex3-2a}
\end{figure}


\begin{figure}[p]%
  \begin{center}%
    \subfigure[]{\figbox{Subfigure 2E}}%
```

7

```
    \quad
    \subfigure[]{\figbox{Subfigure 2F}}\\
    \subfigure[]{\figbox{Subfigure 2G}}%
    \quad
    \subfigure[]{\figbox{Subfigure 2H}}%
  \end{center}%
  \captcont*{This is a continued figure (cont.)}
  \label{fig:ex3-2b}
\end{figure}

\begin{figure}[p]%
  \begin{center}%
    \subfigure[]{\figbox{Subfigure 2I}}%
    \quad
    \subfigure[]{\figbox{Subfigure 2J}}\\
    \subfigure[]{\figbox{Subfigure 2K}}%
    \quad
    \subfigure[]{\figbox{Subfigure 2L}}%
  \end{center}%
  \caption*{This is a continued figure (cont.)}
  \label{fig:ex3-2c}
\end{figure}
```

Here only the first two captions (for figures 3 and 4) appear in the List-of-Tables. The correct figure and page numbers are generated by any `\label` commands for later use with `\ref` or `\pageref`. When the subfigure package is loaded this goes for the `\subref` command also.

3.3 A Continued Series of Subtables

Example 4 also shows the interaction of the contcapt and subfigure packages. Here the table environment is used along with the TABTOPCAP option which insures that the numbering for the subtables is correct when the `\caption` preceeds them rather than following them. As mentioned above, we use the `\caption` or `\caption*` command for the first float environment and the `\captcont` or `\captcont*` command for the continued float's.

Table 2: This is a simple table. (a) (b) Subtable 1A Subtable 1B (c) (d) Subtable 1C Subtable 1D -12-	Table 3: This is a continued table. (a) (b) Subtable 2A Subtable 2B (c) (d) Subtable 2C Subtable 2D -13-
Table 3: This is a continued table (cont.) (e) (f) Subtable 2E Subtable 2F (g) (h) Subtable 2G Subtable 2H -14-	Table 3: This is a continued table (cont.) (i) (j) Subtable 2I Subtable 2J (k) (l) Subtable 2K Subtable 2L -15-

Example 4: Four pages showing a regular table with four subtables and a continued table composed of twelve subtables.

```
\begin{table}[p]%
  \caption{This is a simple table.}%
  \label{tab:One}%
  \begin{center}%
    \subtable[\label{tab:OneA}]{\figbox{Subtable 1A}}%
    \quad
    \subtable[\label{tab:OneB}]{\figbox{Subtable 1B}}\\
    \subtable[\label{tab:OneC}]{\figbox{Subtable 1C}}%
    \quad
    \subtable[\label{tab:OneD}]{\figbox{Subtable 1D}}%
  \end{center}%
\end{table}

\begin{table}[p]%
  \caption{This is a continued table.}%
  \label{tab:Two}%
```

```
  \begin{center}%
    \subtable[\label{tab:Two}]{\figbox{Subtable 2A}}%
    \quad
    \subtable[\label{tab:Two}]{\figbox{Subtable 2B}}\\
    \subtable[\label{tab:Two}]{\figbox{Subtable 2C}}%
    \quad
    \subtable[\label{tab:Two}]{\figbox{Subtable 2D}}%
  \end{center}%
\end{table}

\begin{table}[p]%
  \captcont*{This is a continued table (cont.)}%
  \begin{center}%
    \subtable[\label{tab:Two}]{\figbox{Subtable 2E}}%
    \quad
    \subtable[\label{tab:Two}]{\figbox{Subtable 2F}}\\
    \subtable[\label{tab:Two}]{\figbox{Subtable 2G}}%
    \quad
    \subtable[\label{tab:Two}]{\figbox{Subtable 2H}}%
  \end{center}%
\end{table}

\begin{table}[p]%
  \captcont*{This is a continued table (cont.)}%
  \begin{center}%
    \subtable[\label{tab:Two}]{\figbox{Subtable 2I}}%
    \quad
    \subtable[\label{tab:Two}]{\figbox{Subtable 2J}}\\
    \subtable[\label{tab:Two}]{\figbox{Subtable 2K}}%
    \quad
    \subtable[\label{tab:Two}]{\figbox{Subtable 2L}}%
  \end{center}%
\end{table}
```

4 The Code

4.1 Identification

We start off by checking that we are loading into LaTeX 2$_\varepsilon$ and announcing the name and version of this package.

```
1 \NeedsTeXFormat{LaTeX2e}[1994/12/01]
2 \ProvidesPackage{captcont}[2002/02/14 v2.0 captcont package]
```

4.2 Declaration and Execution of the Options

\iffiguretopcap
\iftabletopcap

First we check if the flags **figuretopcap** and **tabletopcap** exist; if they are not present, than they are created. These are used to remember the options and are also the same internal \if's used by the subfigure package for this purpose and so we check if the subfigure package has already been loaded (by the existance of the \@subfloat command and if so, then we entirely skip loading the options.

However if the subfigure package has not been loaded, we check for the options below and set the two \if's accordingly. By default **figuretopcap** is set false and **tabletopcap** is set true. If the subfigure package is loaded later, then it will override any settings made here!

```
3 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{}
4 \@ifundefined{tabletopcaptrue}{\newif\iftabletopcap}{}
5 \@ifundefined{@subfloat}{%
6   \DeclareOption{figbotcap}{\figuretopcapfalse}
7   \DeclareOption{figtopcap}{\figuretopcaptrue}
8   \DeclareOption{tabbotcap}{\tabletopcapfalse}
9   \DeclareOption{tabtopcap}{\tabletopcaptrue}
10  \ExecuteOptions{figbotcap,tabtopcap}
11  \ProcessOptions}{}
```

4.3 The Updated \caption Commands

\caption
\caption*
\cc@caption

First, we save the current \caption command as \cc@caption. Then we redefine \caption to check for a trailing '*' so that we can choose the regular caption (\cc@caption) for a special caption (\cc@scaption) that does not add a line to the "List-of" pages.

```
12 \let\cc@caption=\caption
```

```
13 \renewcommand{\caption}{%
14   \@ifstar\cc@scaption\cc@caption}
```

\cc@scaption
\cc@@scaption

Next, we define the \cc@scaption and \cc@@scaption commands to do everything that the regular \caption command would have done, except for adding a line to the "List-of" pages.

If \@captype is undefined, then write out an error and 'eat' (*i.e.*, throw away) the argument(s). Otherwise, add one to the *figure* or *table* counter and define the \@currentreference, then call \cc@@scaption with the expanded arguments.

Note that we allow an optional argument for the \cc@@scaption even though this will never be used. The reason for this is to allow the shift from \caption to \caption* or back, when deciding if something should or should not be shown in the "List-of" pages, to be done with just the addition or removal of the '*'.

```
15 \newcommand{\cc@scaption}{%
16   \ifx\@captype\@undefined
17     \@latex@error{\noexpand\caption* outside float}\@ehd
18     \expandafter\@gobble
19   \else
20     \refstepcounter\@captype
21     \expandafter\@firstofone
22   \fi
23   {\@dblarg{\cc@@scaption\@captype}}}
```

We add a `\par` to end the current horizontal list, then we normalize the paragraph setting parameters, however we call `\@setminipage` if the `\if@minipage` is still true to enable `\everypar` to make it false later. (This is the case if the `\caption` is not the first entry in the `float`) environment.

```
24 \long\def\cc@@scaption#1[#2]#3{%
25   \par
26   \begingroup
27     \@parboxrestore
28     \if@minipage
29       \@setminipage
30     \fi
```

Next `\normalsize` is restored (we just assume something else was set) and we typeset the caption followed by another `\par`. Unlike the regular `\caption` command, we skipped adding a line to the List-of-Figures or List-of-Tables.

```
31     \normalsize
32     \@makecaption{\@nameuse{fnum@#1}}{\ignorespaces #3}\par
33   \endgroup}
```

4.4   Work with the \label/\ref Mechanism

\ccset@currentlabel   We define this command to conditionally increment the *figure* or *table* counter according to the respective flag telling us if the `\caption` is normally placed before or after the figure or table. Then globally reset the currentlabel for use with the `\label` command.

Note that this leaves the counter with a possibly incorrect setting, so this should be used within a group to limit it's scope.

```
34 \newcommand{\ccset@currentlabel}[1]{%
35   \@nameuse{if\@captype topcap}\else
36     \advance\@nameuse{c@\@captype}\@ne
37   \fi
38   \global\edef\@currentlabel{%
39     \@nameuse{p@#1}\@nameuse{the#1}}}
```

4.5   The New Caption Continuation Commands

\captcont   The `\captcont` and `\captcont*` commands are just like the corresponding
\captcont*   `\caption` and `\caption*` command, except that they do not cause the *figure* or *table* counters to be incremented.

The first step is to check for a following '*' to decide if an entry on the "List-of" page is to be made. The '*' version does not add an entry.

```
40 \newcommand{\captcont}{%
41   \@ifstar\cc@scaptcont\cc@captcont}
```

\cc@captcont
\cc@scaptcont
Next, we define the \cc@captcont and \cc@scaptcont commands to check to insure that we are inside a float environemnt. If not, then we report an error and exit. Otherwise we call the respective \cc@@captcont or \cc@@scaptcont command to finish the processing, without changing the current coutner value or updating the \@currentreference value. Those will be done locally, as necessary, in the following commands.

Note that we have an optional argument for the \cc@@scaptcont even though this will never be used. The reason for this, as above, is to allow the shift from \captcont to \captcont* or back to be done with just the addition or removal of the '*' when deciding if something should or should not be shown in the "List-of" pages.

```
42 \newcommand{\cc@captcont}{%
43   \ifx\@captype\@undefined
44     \@latex@error{\noexpand\captcont outside float}\@ehd
45     \expandafter\@gobble
46   \else
47     \expandafter\@firstofone
48   \fi
49   {\@dblarg{\cc@@captcont\@captype}}}
50 \newcommand{\cc@scaptcont}{%
51   \ifx\@captype\@undefined
52     \@latex@error{\noexpand\captcont* outside float}\@ehd
53     \expandafter\@gobble
54   \else
55     \expandafter\@firstofone
56   \fi
57   {\@dblarg{\cc@@scaptcont\@captype}}}
```

\cc@@captcont
\cc@@scaptcont
These two commands do the real work and finish up the "captcont" processing. They both insert a \par to finish off the prior horizontal list (if any) and then **locally** update the *figure* or *table* counter (if necessary) and **globally** set the \@currentlabel value using \ccset@currentlabel, defined above.

The difference between them is that \cc@@captcont then writes to the "List-of" page, while \cc@@scaptcont does not. They both then finish just like the \cc@@scaption command, by resetting the paragraph and font parameters and then calling \@makecaption to typeset the caption followed by a \par.

```
58 \long\def\cc@@captcont#1[#2]#3{%
59   \par
60   \begingroup
61     \ccset@currentlabel{#1}%
62     \addcontentsline{\@nameuse{ext@#1}}{#1}%
63       {\protect\numberline{\@nameuse{the#1}}{\ignorespaces #2}}%
64     \@parboxrestore
65     \if@minipage
66       \@setminipage
67     \fi
68     \normalsize
69     \@makecaption{\@nameuse{fnum@#1}}{\ignorespaces #3}\par
70   \endgroup}
```

13

```
71 \long\def\cc@@scaptcont#1[#2]#3{%
72   \par
73   \begingroup
74     \ccset@currentlabel{#1}%
75     \@parboxrestore
76     \if@minipage
77       \@setminipage
78     \fi
79     \normalsize
80     \@makecaption{\@nameuse{fnum@#1}}{\ignorespaces #3}\par
81   \endgroup}
```

Acknowledgement

I wish to thank William 'bil' L. Kleb (w.l.kleb@larc.nasa.gov) for his willingness to proofread this document and his many valuable suggestions as to its improvement.

References

[1] Steven Douglas Cochran, *The subfigure Package*, 2002/02/14/. (Available from CTAN as file `subfigure.dtx`)

[2] David Carlisle, *The longtable package*, 2000/10/22. (Available from CTAN as file `longtable.dtx`)

[3] Johannes Braams and Theo Jurriens, *The supertabular environment*, 1999/08/07. (Available from CTAN as file `supertabular.dtx`)