

crossrefenum

Smart typesetting of enumerated cross-references for various T_EX formats

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crossrefenum lets T_EX manage the formatting of bunches of cross-references for you. It features:

- Automatic collapsing of references;
- Support for references by various criteria, including page and note number, line number in ConT_EXt and edpage and edline when used in conjunction with *reledmac*;
- Handling of references combining two criteria (e.g. by page and note number);
- Extension mechanisms to add support to other types of references without modifying the internal macros.

Note that sorting is not supported. I assume that users know in what order the labels they refer to appear in their document.

It is written in Plain T_EX as much as possible in order to make it compatible with a wide array of formats. For the moment, it works out of the box with ConT_EXt and L^AT_EX.

The file `main-test.pdf` provides a showcase of the abilities of *crossrefenum*.

1 Loading

To load *crossrefenum*, provided that `crossrefenum.tex`, `crossrefenum.sty` and `t-crossrefenum.tex` are installed in a directory where T_EX will find them (presumably under the `tex/generic/crossrefenum` directory of one of your *texmf* trees), you can do:

- `\input{crossrefenum}` (generic);
- `\usepackage{crossrefenum}` (L^AT_EX; must be called after *nameref* if you use *hyperref*);
- `\usemodule[crossrefenum]` (ConT_EXt).

2 Basic invocation

The macro `\crossrefenum` has the following syntax:

```
\crossrefenum[type][print prefix?]{enumeration}
```

- *type* is the type of reference. Built-in possible values are:
 - For L^AT_EX and ConT_EXt: `page`, `note`, `pagenote`;
 - For ConT_EXt only: `line`, `pageline`;
 - For L^AT_EX with *reledmac*: `edpage`, `edline`, `edpageline`.
- *print prefix?* indicates whether the prefix (like “p.”) should be printed or not: `true` if set to `withprefix` or `yes`;
- *enumeration* is a group containing one or more *single* labels (e.g. `{mylabel}`) or *ranges* (e.g. `{lblbegin to lblend}`) included in groups. Ranges cannot be used with `note` and `pagenote` types.

type and *print prefix?* are optional. *type* defaults to `page` and *print prefix?* to `withprefix`.

Here are some valid invocations:

- `\crossrefenum[note][withprefix]{\lblone}{\lbltwo}{\lblthree}}`
- `\crossrefenum[edline][noprefix]{\lblone}{\lbltwo}{\lblthree}}`
- `\crossrefenum[noprefix]{\lblone}{\lbltwo}{\lblthree}}` (*type* defaults to `page`)
- `\crossrefenum[note]{\lblone}{\lbltwo}{\lblthree}}` (*print prefix?* defaults to `withprefix`)

- `\crossrefenum{{lblone}{lbltwo}{lblthree}}` (*type* defaults to `page` and *print prefix?* defaults to `withprefix`)
- `\crossrefenum{{only-one}}` (even if the enumeration is limited to one item, it must be inside its own group)

3 Customization

Customizing is done by redefining configuration macros. We describe the general mechanism first. Macros for double types are introduced at the end of this section.

3.1 Prefixes, delimiters and separators

Every simple type has two macros corresponding to the singular and plural prefixes printed before the value of the reference. By default, they are set to:

```
\def\crfnmPage{p.~}  
\def\crfnmPages{pp.~}  
\def\crfnmNote{n.~}  
\def\crfnmNotes{nn.~}  
\let\crfnmEdpage\crfnmPage  
\let\crfnmEdpages\crfnmPages  
\def\crfnmEdline{1.~}  
\def\crfnmEdlines{11.~}
```

Between successive items in an enumeration, `\crossrefenum` calls `\crfnmDefaultEnumDelim` or `\crfnmDefaultBeforeLastInEnum`. By default, they are set to:

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```
\def\crfnmDefaultEnumDelim{, }  
\def\crfnmDefaultBeforeLastInEnum{ and }
```

The beginning and the end of a range are separated by `\crfnmDefaultRangeSep`. By default:

```
\def\crfnmDefaultRangeSep{-}
```

3.2 Collapsible and non-collapsible types

The macro `\crfnmDefaultCollapsible` defines if ranges are allowed. The default configuration is:

```
\def\crfnmDefaultCollapsible{yes}  
\def\crfnmNoteCollapsible{no}
```

Thus, a reference to consecutive notes is formatted like *nn. 3, 4 and 5*, not like *nn. 3–5*.

Ranges are not accepted in the argument of `\crossrefenum` for non-collapsible types. This extends to double types that include a non-collapsible type (such as `pagenote` in the default configuration).

3.3 Double types

Two subtypes in a double type (e.g. page and note number for `pagenote`) are separated by `\crfnmDefaultSubtypesSep`. Default:

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```
\def\crfnmDefaultSubtypesSep{, }
```

When more than one reference is cited in an enumeration, you may not want the first prefix to be repeated every time (e.g. you could prefer “pp. 5, n. 2; 7, n. 4” over “p. 5, n. 2; p. 7, n. 4”). In that case, set `\crfnmDefaultPrintFirstPrefix` to `once`. Default is:

```
\def\crfnmDefaultPrintFirstPrefix{always}
```

If you want to format the second part of the reference in a special way (e.g. in superscript), use `\crfnmDefaultFormatInSecond`, which takes one argument which corresponds to the reference number and all its affixes. Default is:

```
\def\crfnmDefaultFormatInSecond#1{#1}
```

If you don't want any prefix to be printed in the second term of a double reference, set `\crfnmDefaultPrintPrefixInSecond` to `no` (default is `yes`). For instance:

```
\def\crfnmEdlineFormatInSecond#1{\textsuperscript{#1}}
```

```
\def\crfnmEdlinePrintPrefixInSecond{no}
```

```
\crossrefenum[edpageline]{\mylabel}}
```

may return “p. 5¹⁰”, while `\crossrefenum[edline]{\mylabel}` would return “l. 10”.

For the second part of such an enumeration (e.g. “l. 10” in “p. 5, l. 10”), you can specify a specific delimiter and a specific string to be printed before the last reference: for instance, you may want to use the word

“and” before the last note number if the reference type is a simple one (note), and a comma if it is comes in second in a double reference (e.g. in pagenote). To achieve this, you should redefine `\crfnmDefaultEnumDelimInSecond` and `\crfnmDefaultBeforeLastInSecond`. By default, these macros fall back respectively on `\crfnmDefaultEnumDelim` and `\crfnmDefaultBeforeLastInEnum`.

When citing a range, the two parts of the reference can either be split (e.g. “p. 5, l. 3 – p. 7, l. 44”) or grouped (“p. 5–7, l. 3–44”). This is controlled via `\crfnmDefaultGroupSubtypes`, which can be set to yes or no. This works only with [collapsible types](#). Default is:

```
\def\crfnmDefaultGroupSubtypes{no}
```

To know if a reference to “p. 6, l. 34” should be merged with “p. 7, l. 35”, *crossrefenum* needs to know if the lineation is continuous (in this case, these lines are consecutive) or per page (they are not, so they should not be merged). You can set accordingly `\crfnmDefaultNumberingContinuousAcrossDocument1` to yes (default) or no. Note that *crossrefenum* cannot merge a reference to the last line of a page and the first line of the following page if the lineation is not continuous.

By default, the number of the first subtype in the name of the double type (e.g. “page” in “pagenote”) is always displayed first. If you want to change this, set `\crfnmDefaultOrder` to *inverted* (defaults to *normal*).

1. In this case, you could set more specifically `\crfnmLineNumberingContinuousAcrossDocument` or `\crfnmEdlineNumberingContinuousAcrossDocument`: see [the following subsection](#).

3.4 Specific values for given types

If you want to override some of these macros for a specific type, simply replace `Default` in its name with the (capitalized) name of the type (e.g. `\def\crfnmPageEnumDelim{; }`).

Setting one of these macros to `\relax` will cause `\crossrefenum` to use the corresponding default macro instead. If you want a specific macro to be set to nothing, use an empty group (e.g. `\def\crfnmPageEnumDelim{}`).

4 How to extend crossrefenum with other types and formats

Adding support for new types consists in defining the related macros in your preamble. Here is a commented example that would add support for references to lines in ConT_EXt if this feature were not already included in *crossrefenum*. We suppose that the labels are inserted in the document using the standard ConT_EXt macros, i.e. `\someline` for line references and `\pagereference` for page references.

```
% Register the types. Take care about capitalization!  
  
%% Set the names of the types and their corresponding macros:  
%% the control sequence should always be lowercase  
%% and the name of the type capitalized.  
\def\crfnm@line{Line}  
\def\crfnm@pageline{Pageline}  
  
%% Add them to the lists of known types.  
\crfnm@declareType[simple][\crfnm@line]  
\crfnm@declareType[double][\crfnm@pageline]
```

```

%% For the double types, set the primary and the secondary type.
%% The primary type corresponds to the widest typographic unit
%% ("page" for "pagenote", "section" for "sectionpage"...).
\let\crfnm@PagelinePrimary\crfnm@page
\let\crfnm@PagelineSecondary\crfnm@line

% Define the macro used to typeset the reference number.
\def\crfnm@LineRef#1{\in[lr:b:#1]}

% Define the macro used by \crossrefenum internally
% to retrieve the raw reference number without typesetting it.
% This macro must be purely expandable.
% If you want to support multiple formats,
% see how the macro \crfnm@case is used in crossrefenum.tex.
% Note: the Lua function get_raw_ref_number is defined
% in crossrefenum.tex for ConTeXt.
\def\crfnm@getLineNumber#1{\directlua{get_raw_ref_number('lr:b:#1', 'linenumber')}}

% Define all specific configuration options in the regular way.

%% Required
\def\crfnmLine{1.~}
\def\crfnmLines{11.~}

```

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```
%% If it differs from the defaults.  
\def\crfnmCollapsible{yes}  
\def\crfnmLineBeforeLastInSecond{, }  
\def\crfnmPagelineSubtypesSep{}  
\def\crfnmPagelinePrintFirstPrefix{once}  
\def\crfnmLineFormatInSecond#1{\crfnmSuperscript{#1}}  
\def\crfnmLinePrintPrefixInSecond{no}
```

Adding support for additional formats is far less trivial, not least because most of them do not provide a straightforward way to get reference numbers via purely expandable macros, which is required for *crossrefenum* to perform its calculations. If you have wishes or hints about this, please contact me.

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5 Compatibility issues

With L^AT_EX, the *nameref* package (required by *hyperref*) must be loaded explicitly before *crossrefenum*. However, if the links in the output of `\crossrefenum` (not the numbers) point to a wrong location, you may wish to patch the macro to disable *hyperref* locally:

```
\makeatletter
\let\oldcrfnm@enum\crfnm@enum
\def\crfnm@enum[#1][#2]#3{\begin{NoHyper}\oldcrfnm@enum[#1][#2]{#3}\end{NoHyper}}
\makeatother
```


6 Changes

6.1 2022/11/11: Version 1.0

6.2 2023/02/20: Version 1.0.1

`\crossrefenum` is now protected against early expansion.

6.3 2023/02/20: Version 1.0.2

Fixed some minor issues in version numbers and in the manual.

6.4 2024/04/13: Version 1.1

Various fixes in the documentation and new convenience macro `\crfnm@declareType`.
The test suite now uses *lualatex*.