Part III. Appendixes

A

Installation

$Revision: 1.1 $
$Date: 2001/08/02 10:22:22 $

Installing the DocBook DTD

This appendix describes how to install the DocBook DTD on your system so that popular command-line tools like SP can use it. If you are installing DocBook for use with a commercial application, consult the documentation for your application as well.

This appendix describes the installation of DocBook V3.1. If you are using another distribution, the process should be about the same, but there may be minor differences. DocBook V3.1 is backward compatible with DocBook V3.0, and is the recommended distribution at the time of this writing.

Unpacking the DocBook V3.1 Distribution

DocBook is distributed on the DocBook web site[i]. You will also find a copy of the distribution on the CD-ROM.

The distribution consists of 14 files:

`31chg.txt`	Describes the changes in DocBook V3.1 from the preceding version (3.0)
`4 0 i s - sues.txt`	Summarizes backwards-incompatible changes planned for DocBook V4.0
`5 0 i s - sues.txt`	Summarizes backwards-incompatible changes planned for DocBook V5.0
`c a l s - tbl.dtd`	The CALS Table Model DTD
`ChangeLog`	A GNU-style ChangeLog summarizing the individual edits made on each file in the distribution since V3.0.
`dbcent.mod`	The character entity module
`d b g e n - ent.mod`	The general entity module
`dbhier.mod`	The document hierarchy module
`dbnotn.mod`	The notations module
`dbpool.mod`	The information pool module

[i] http://www.oasis-open.org/docbook/

`docbook.cat`	A sample OASIS catalog for DocBook
`docbook.dcl`	An SGML Declaration suitable for DocBook
`docbook.dtd`	The DocBook DTD
`readme.txt`	The DocBook V3.1 “readme” file

Unpack the distribution into a directory on your system. The exact location is irrelevant. On UNIX systems it's common to put it somewhere under `/usr/local` or `/share` (for example, `/usr/local/sgml/docbook` or `/share/sgml/docbook`). On a PC, perhaps `c:\sgml\docbook`.

Getting the ISO Entity Sets

DocBook refers to a number of standard entity sets that are not distributed with DocBook. (They aren't distributed with DocBook because they aren't maintained by the DocBook TC. They're maintained by ISO.) If you've installed other SGML DTDs or tools, they may already be on your system.

If you are missing some of them, they are available from Robin Cover's pages at OASIS: http://www.oasis-open.org/cover/ISOEnts.zip[ii].[22] See http://www.oasis-open.org/cover/topics.html#entities for more information.

The DocBook Catalog

DocBook uses public identifiers to refer to its constituent parts. In some sense, DocBook *is* DocBook because it has the formal public identifier “`-//OASIS//DTD DocBook V3.1//EN`”. In order for tools on your system to find your locally installed copy of DocBook, you must map these public identifiers into system identifiers, i.e., filenames, on your system. For a complete discussion of catalog files, see the section called “Public Identifiers, System Identifiers, and Catalog Files”.

The DocBook distribution includes a sample catalog, `docbook.cat` , which provides a mapping for all of the public identifiers referenced by DocBook. This mapping won't work “out of the box” for two reasons: first, your tools won't be able to find it, and second, the mappings for the ISO entity sets probably don't point to the right place on your system.

Finding the Catalog

If you've already got some other SGML DTDs installed, you probably already have a catalog file. In this case, the easiest thing to do is append the DocBook catalog entries to the end of your existing catalog and then change them to point to the files on your system.

If DocBook is the first DTD that you're installing, make a copy of `docbook.cat` and call it `catalog`. Put this file in a higher-level directory and edit the relative pathnames that it contains to point to the actual locations of the files on your system. For example, if you installed DocBook in `/share/sgml/docbk30/`, put the `catalog` in `/share/sgml/`.

In order for applications to find your catalog file(s), you may have to change the application preferences or set an environment variable. For SP and Jade, set the environment variable `SGML_CATALOG_FILES` to the delimited list of catalog filenames. On my system, this looks like:

```
SGML_CATALOG_FILES=./catalog;n:/share/sgml/catalog;n:/adept80/doctypes/catalog.jade;j:/jade/catalog
```

(On a UNIX machine, use colons instead of semicolons to delimit the filenames.)

[ii] http://www.oasis-open.org/cover/ISOEnts.zip

[22] The names of the entity files in this distribution do not exactly match the names of the files used in the catalog file distributed with DocBook (`docbook.cat`). Make sure your catalog file points to the right files.

If you don't wish to set the environment variable, you can explicitly pass the name of each catalog to the SP application with the `-c` option, like this:

```
nsgmls -c ./catalog -c n:/share/sgml/catalog -c othercatalogs
 ...
```

Fixing the Catalog

The basic format of each entry in the DocBook catalog is:

```
PUBLIC "some public id" "some filename"
```

What you have to do is change each of the “some filenames” to point to the actual name of the file on your system.

Note

Filenames should be supplied using absolute filenames, or paths relative to the location of the *catalog* file.

To continue with the example above, let's say that you've got:

- DocBook in `/share/sgml/docbk30/`,
- The ISO entities in `/share/sgml/entities/8879/`, and
- Your catalog in `/share/sgml/catalog`

Then you would change the catalog entry for the DTD to be:

```
PUBLIC "-//OASIS//DTD DocBook V3.1//EN" "docbk30/docbook.dtd"
```

You would change the catalog entry for the general technical character entities to:

```
PUBLIC "ISO 8879:1986//ENTITIES General Technical//EN" "entities/8879/iso-tech.gml"
```

And similarly for the other public identifiers used by DocBook. In each case, the filename specified for the public identifier should be the name of the file on your system, specified as an absolute filename, or relative to the location of the `catalog` in which it occurs.

Mapping System Identifiers for XML

Since XML documents are required to have system identifiers, but are not required to have public identifiers, it's likely that some of the documents you want to process will only have system identifiers.

It turns out that you can still take advantage of the catalog in this case. The `SYSTEM` directive allows you to map the system identifier used in the document to the actual location on your system.

Suppose that you work with a colleague who uses the system identifier “file:///c:/sgml/db3xml/db3xml.dtd” to identify the XML version of DocBook on her system. On your system, you want to map that to “/share/sgml/db3xml/db3xml.dtd”. The following entry in your catalog will do the trick:

```
SYSTEM "http://docbook.org/docbook/xml/1.4/db3xml.dtd" "/share/sgml/db3xml/db3xml.dtd"
```

Unfortunately, this technique only works with applications that read and understand catalog files.

Testing Your Installation

The best way to test your installation is with a simple command-line parser like **nsgmls** from SP. Create a small test document, like this:

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook V3.1//EN">
<chapter><title>Test Chapter</title>
<para>
This is a test document.
</para>
</chapter>
```

and run the following command:

```
nsgmls -sv test.sgm
```

If the **nsgmls** command produces errors, review your catalog and resolve the errors. You can ignore warnings about `DTDDECL` being unsupported. It is unsupported, and there's no way to disable the warning message. Note, however, that this may also affect which SGML declaration gets used. When in doubt, pass the correct declaration explicitly and see if that corrects any problems. (To parse `test.sgm` with the declaration `docbook.dcl` explicitly, run **nsgmls -sv docbook.dcl test.sgm**.)

For some suggestions about how to work around these problems in SP and Jade, see the next section, the section called “Installing Jade”.

Installing Jade

For simplicity, the instructions assume that you are working with Jade on a Microsoft Windows machine. These instructions should be just as useful if you are working on another platform, except for the normal cross-platform idiosyncracies (path and filename separator characters, use of drive letters, etc.).

Download and unpack the Jade [iv] distribution. Binary distributions are available for some platforms, which makes installation a simple matter of unpacking the distribution. Or you can build Jade from the source (consult the documentation that comes with Jade for more detail about building it from source).

You may wish to add the directory where you installed Jade to your `PATH`. If not, make sure that you use the fully qualified name of the executable when you run the commands below.

Setting Up the Catalog

First, the catalog needs to be set up as described in the section called “The DocBook Catalog” in order for Jade to be able to parse your DocBook documents. In addition, Jade comes with its own `catalog` file that you must add to the `SGML_CATALOG_FILES` environment variable or otherwise make available to Jade.

Testing Jade

Download `jtest.sgm`[v] and `jtest.dsl`[vi]. (Or get them off the CD-ROM in FIXME.) These are self-contained test documents. Test Jade by running:

```
jade -t rtf -d jtest.dsl jtest.sgm
```

[iv] http://www.jclark.com/jade/

[v] http://nwalsh.com/docbook/dsssl/doc/testdata/jtest.sgm

[vi] http://nwalsh.com/docbook/dsssl/doc/testdata/jtest.dsl

This command should silently produce jtest.rtf[vii]. If you encounter warnings or errors here, Jade is not installed correctly. One possible culprit is your catalog setup. See the section called “Dealing with Multiple Declarations”.

DTDDECL Warnings

One annoying shortcoming in Jade is that it does not support the `DTDDECL` catalog directive and it complains loudly if it encounters one. In Jade, it's almost always possible to work around the problems that `DTDDECL` would solve, so you can generally ignore the warnings.

If you also use applications that do understand `DTDDECL`, and find the warnings too distracting to bear, setup alternate catalogs for SP applications, `catalog.jade`, that are identical to your normal catalogs but do not contain any `DTDDECL` entries. You can then avoid the warnings by putting `catalog.jade` in your `SGML_CATALOG_FILES` path, instead of `catalog`.

Installing the Modular DocBook Stylesheets

Norman Walsh[viii] (one of your intrepid authors ;-) maintains two DSSSL stylesheets for DocBook, one for print and one for online (HTML) output. You can obtain both of these stylesheets from http://nwalsh.com/docbook/dsssl/ [ix]. (A recent version is also on the CD-ROM.)

1. If you have not already done so, download and install the DocBook DTD as described in the section called “Installing the DocBook DTD”.

2. Likewise, if Jade is not installed on your system, download and install it as described in the section called “Installing Jade”.

3. Download and unpack the stylesheet distribution[x].

4. Test the installation by processing `test.sgm` (from the previous section) with Jade:

   ```
   jade -t rtf -d d:\where-you-unpacked-the-stylesheets\docbook\print\docbook.dsl test.sgm
   ```

   This command should silently produce `test.rtf`[xi]. If not, and the preceding test succeeded, something has gone wrong—contact the maintainer[xii].

   To test the HTML stylesheet, run:

   ```
   jade -t sgml -d d:\where-you-unpacked-the-stylesheets\docbook\html\docbook.dsl test.sgm
   ```

   This command should silently produce `c01.htm`[xiii]. If not, and the preceding test succeeded, something has gone wrong—contact the maintainer[xiv].

[vii] http://nwalsh.com/docbook/dsssl/doc/testdata/jtest.rtf
[viii] http://nwalsh.com/~ndw/
[ix] http://nwalsh.com/docbook/dsssl/
[x] http://nwalsh.com/docbook/dsssl/
[xi] http://nwalsh.com/docbook/dsssl/doc/testdata/test.rtf
[xii] http://nwalsh.com/~ndw/contact.html
[xiii] http://nwalsh.com/docbook/dsssl/doc/testdata/c01.htm
[xiv] http://nwalsh.com/~ndw/contact.html

B

DocBook and XML

$Revision: 1.1 $
$Date: 2001/08/02 10:22:22 $

XML, the Extensible Markup Language[i], is a simple dialect of SGML. In the words of the XML specification, “the goal [of XML] is to enable generic SGML to be served, received, and processed on the Web in the way that is now possible with HTML.”

XML raises two issues with respect to DocBook:

- Are DocBook SGML instances valid XML instances?
- Can the DocBook DTD be made into a valid XML DTD?

If you have an existing SGML system, and your primary goal is to serve DocBook documents over the Web as XML, only the first of these issues is relevant. As the popularity of XML grows, we will see more and more XML-aware tools that don't implement full ISO 8879 SGML. If your goal is to author DocBook documents with one of this new generation of tools, you will only be able to achieve validity with an XML DocBook DTD.

Although not yet officially adopted by the OASIS DocBook Technical Committee, an XML version of DocBook is available now and provided on the CD-ROM.

DocBook Instances as XML

Most DocBook documents can be made into well-formed XML documents very easily. With few exceptions, valid DocBook SGML instances are also well-formed XML instances. The following areas may need to be addressed.

System Identifiers

It is common for SGML instances to use only a public identifier in document type and parameter entity declarations:

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook V3.1//EN">
<chapter><title>Chapter Title</title>
<para>
This <emphasis>paragraph</paragraph> is important.
</para>
</chapter>
```

XML requires a system identifier:

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook XML V4.1.2//EN"
```

[i] http://www.w3.org/TR/REC-xml

```
                  "http://www.oasis-open.org/docbook/xml/4.1.2/docbookx.dtd">
<chapter><title>Chapter Title</title>
<para>
This <emphasis>paragraph</paragraph> is important.
</para>
</chapter>
```

If you're used to using catalog files to resolve system identifiers, you may be dismayed to learn that system identifiers are required. Because most tools favor system identifiers over public identifiers, all of the portability that was gained by the use of catalog files seems to have been lost. In the long run, it'll be regained by the fact that XML system identifiers can be URNs, which will have a resolution scheme like catalogs, but what about the short run?

Luckily, there are a couple of options. First, you can tell your tools to use the public identifiers even though system identifiers are present. Simply add:

```
OVERRIDE YES
```

to your catalog files. Alternatively, you can remap system identifers with the `SYSTEM` catalog directive. If you are faced with documents that don't use public identifiers at all, this is probably your only option.

Minimization

If you have used SGML minimization features in your instances:

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook V3.1//EN">

<chapter id=❶chap1><title>Chapter Title</title>
<para>

This <emphasis>paragraph❷</> is important.
</para>
</chapter>
```

they will not be well-formed XML instances. In particular, XML

❶ Requires that all attribute values be quoted.

❷ Does not allow short tag minization.

XML also forbids tag omission, and there are probably a half dozen or so more exotic examples of minimization that you have used. They're all illegal. The easiest way to remove these minimizations is probably with a tool like **sgmlnorm** (included in the SP and Jade distributions, on the CD-ROM).

The result will be something like this:

```
<?xml version='1.0'?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.1.2//EN"
                  "http://www.oasis-open.org/docbook/xml/4.1.2/docbookx.dtd">
<chapter id="chap1"><title>Chapter Title</title>
<para>
This <emphasis>paragraph</emphasis> is important.
</para>
</chapter>
```

Attribute Default Values

Correct processing of this document may require access to the default attributes:

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook V3.1//EN">
<chapter><title>Chapter Title</title>
<para>
Write to us at:

<address(1)>
90 Sherman Street
Cambridge, MA 02140
</address>
</para>
</chapter>
```

(1) `Address` expresses that its content is line-specific with an attribute.

Some XML processing environments are going to ignore the doctype declaration in your document, even if it's present. This is relevant when your instance uses elements that have attributes with default values. The default values are expressed in the DTD, but may not be expressed in your instance. In the case of DocBook, there are relatively few of these, and your stylesheet can probably be constructed to do the right thing in either case. (It essentially treats the attributes as if they had implied values.)

The result will be something like this:

```
<?xml version='1.0'?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.1.2//EN"
                  "http://www.oasis-open.org/docbook/xml/4.1.2/docbookx.dtd">
<chapter><title>Chapter Title</title>
<para>
Write to us at:
<address format="linespecific">
90 Sherman Street
Cambridge, MA 02140
</address>
</para>
</chapter>
```

Character and SDATA Entities

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook V3.1//EN">
<chapter><title>Chapter Title</title>
<para>

This book was published by O'Reilly(1)&trade;.
</para>
</chapter>
```

(1) The DocBook DTD defines all of the standard ISO entities automatically, but the ISO definitions use SDATA, which is not allowed in XML. Eventually, ISO (or someone else) will release official ISO standard entity sets that make reference to the appropriate Unicode character for each entity. Until then, the XML version of DocBook is distributed with an unofficial set.

If you use entities in your document, it may be wise to put declarations for them in the internal subset of each instance, because some XML browsers are going to parse the internal subset but not the external subset. If the

entity declarations are in your DTD, and the browser does not parse the external subset, the browser won't know how to display the entities in your document.

The result will be something like this:

```
<?xml version='1.0'?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.1.2//EN"
                  "http://www.oasis-open.org/docbook/xml/4.1.2/docbookx.dtd" [
<!ENTITY trade "&#x2122;">
<chapter><title>Chapter Title</title>
<para>
This book was published by O'Reilly&trade;.
</para>
</chapter>
```

Case-Sensitivity

```
❶<!DocType Book PUBLIC "-//OASIS//DTD DocBook V3.1//EN">
❷<book><title>Book Title</title>

<chapter><title>Chapter Title❸</Title>
<para>
Paragraph test.
</para>
❹<PARA>
A second paragraph.
</PARA>
</chapter>
</book>
```

With the standard DocBook SGML declaration, DocBook instances are not case-sensitive with respect to element and attribute names. XML is always case-sensitive. As long as you have used the same case consistently, your XML instances will be well-formed, but it may still be advantageous to do some case-folding because it will simplify the construction of stylesheets.

❶ Keywords in XML are case-sensitive, and must be in uppercase.

❷ The name declared in the document type declaration, like all other names, is case-sensitive.

❸ Start and end tags must use the same case.

❹ In XML, `Para` is not the same as `PARA`. Note that this is a validity error (against the XML version of DocBook), but it is not an XML well-formedness error. The use of `para` and `PARA` as distinct names is as legitimate as using `foo` and `bar`, as long as they are properly nested.

The result will be something like this:

```
<?xml version='1.0'?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.1.2//EN"
                  "http://www.oasis-open.org/docbook/xml/4.1.2/docbookx.dtd">
<book><title>Book Title</title>
<chapter><title>Chapter Title</title>
```

```
<para>
Paragraph test.
</para>
<para>
A second paragraph.
</para>
</chapter>
</book>
```

No #CONREF Attributes

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook V3.1//EN">
<chapter><title>Chapter Title</title>

<indexterm id="idx-bor"><primary>Something</primary></indexterm>
<para>
Paragraph test.
</para>

<indexterm startref="idx-bor">
</chapter>
```

The `StartRef` attribute on `indexterm` and the `OtherTerm` attribute on `GlossSee` and `GlossSeeAlso` are `#CONREF` attributes.

In SGML terms, this means that when these attributes are used, the content of the tag is taken to be the same as the content of the tag pointed to by the attribute.

u have used these attributes, your instance will contain both empty and non-empty versions of these tags.

Your best bet is to transform the `#CONREF` version into an empty tag and let your stylesheet deal with it appropriately.

The result will be something like this:

```
<?xml version='1.0'?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.1.2//EN"
                  "http://www.oasis-open.org/docbook/xml/4.1.2/docbookx.dtd">
<chapter><title>Chapter Title</title>
<indexterm id="idx-bor"><primary>Something</primary></indexterm>
<para>
Paragraph test.
</para>
<indexterm startref="idx-bor"/>
</chapter>
```

Only Explicit CDATA-Marked Sections Are Allowed

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook V3.1//EN" [
<!ENTITY % draft "IGNORE">
<!ENTITY % sourcecode "CDATA">
]>
<chapter><title>Chapter Title</title>
```

```
<![ %draft; [
<para>
Draft paragraph.
```

```
</para>
]]>
<para>
The following code is totally out of context:
<programlisting>
<![ %sourcecode; [
if (x < 3) {
  y = 3;
}
]]>
</programlisting>
</chapter>
```


Parameter entities are not allowed in the body of XML documents (they are allowed in the internal subset).


XML instances cannot contain `IGNORE`, `INCLUDE`, `TEMP`, or `RCDATA` marked sections.


`CDATA` marked sections must use the "`CDATA`" keyword literally because parameter entities are not allowed.

The result will be something like this:

```
<?xml version='1.0'?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.1.2//EN"
                   "http://www.oasis-open.org/docbook/xml/4.1.2/docbookx.dtd">
<chapter><title>Chapter Title</title>
<para>
The following code is totally out of context:
<programlisting>
<![CDATA[
if (x < 3) {
  y = 3;
}
]]>
</programlisting>
</chapter>
```

No SUBDOC or CDATA External Entities

```
<!DOCTYPE chapter PUBLIC "-//OASIS//DTD DocBook V3.1//EN" [
<!ENTITY % sourcecode SYSTEM "program.c" CDATA>
]>
<chapter><title>Chapter Title</title>
<para>
The following code is totally out of context:
<programlisting>
&sourcecode;
</programlisting>
</chapter>
```

XML instances cannot use `CDATA` or `SUBDOC` external entities. One option for integrating external `CDATA` content into a document is to employ a pre-processing pass that inserts the content inline, wrapped in a `CDATA` marked section.

`SUBDOC` entities may be more problematic. If you do not require validation, it may be sufficient to simply put them inline. XML namespaces may offer another possible solution.

The result will be something like this:

```
<?xml version='1.0'?>
<!DOCTYPE book PUBLIC "-//OASIS//DTD DocBook XML V4.1.2//EN"
                  "http://www.oasis-open.org/docbook/xml/4.1.2/docbookx.dtd">
<chapter><title>Chapter Title</title>
<para>
The following code is totally out of context:
<programlisting>
<![CDATA[
int main () {
..
}
]]>
</programlisting>
</chapter>
```

No Data Attributes on Notations

They're not allowed in XML, so don't add any.

No Attribute Value Specifications on Entity Declarations

They're not allowed in XML, so don't add any.

The DocBook DTD as XML

Converting the DocBook DTD to XML is much more challenging than converting the instances. It is probably not possible to construct an XML DTD that is identical to the validation power of DocBook. The list below identifies most of the issues that must be addressed, and describes how the DocBook XML DTD; deals with them:

Comments are not allowed inside markup declarations

> Most of them have been moved to comment declarations preceding the markup declaration that used to contain them. A few small, inline comments that seemed like they would be out of context if moved before the declaration were simply deleted.

Name groups are not allowed in element or attribute list declarations

> The small number of places in which DocBook uses name groups have been expanded.
>
> There's one downside: DocBook uses `%admon.class;` in a name group to define the content model, and attribute lists for elements in the admonitions class. In DocBook XML, this convenience cannot be expressed. If additional admonitions are added, the element and attribute list declarations will have to be copied for them.

No `CDATA` or `RCDATA` declared content

> `Graphic` and `InlineGraphic` have been made `EMPTY`. The content model for `SynopFragmentRef` , the only `RCDATA` element in DocBook, has been changed to `(arg | group)+`.

No exclusions or inclusions on element declarations

> They had to be removed.
>
> In DocBook, exclusions are used to exclude the following:

- Ubiquitous elements (`indexterm` and `BeginPage`) from a number of contexts in which they should not occur (such as metadata, for example).
- Formal objects from `Highlights`, `Example`s, `Figure`s and `LegalNotice`s.
- Formal objects and `InformalTable`s from tables.
- Block elements and `Footnote`s from `Footnote`s
- Admonitions, `EntryTbl`s, and `Acronym`s from themselves.

Removing these exclusions from DocBook XML means that it is now valid, in the XML sense, to do some things that don't make a lot of sense (like put a `Footnote` in a `Footnote`). Be careful.

Inclusions in DocBook are used to add the ubiquitious elements (`indexterm` and `BeginPage`) unconditionally to a large number of contexts. In order to make these elements available in DocBook XML, they have been added to most of the parameter entities that include `#PCDATA`. If new locations are discovered where these terms are desired, DocBook XML will be updated.

Elements with mixed content must have `#PCDATA` first.

The content models of many elements have been updated to make them a repeatable OR group beginning with `#PCDATA`.

Many declared attribute types (`NAME`, `NUMBER`, `NUTOKEN`, and so on) are not allowed

They have all been replaced by `NMTOKEN` or `CDATA`.

No `#CONREF` attributes allowed.

The `#CONREF` attributes on `indexterm`, `GlossSee`, and `GlossSeeAlso` were changed to `#IMPLIED`. The content model of `indexterm` was modified so that it can be empty.

Attribute default values must be quoted.

Quotes were added wherever necessary.

C

DocBook Versions

$Revision: 1.2 $
$Date: 2002/03/23 20:58:33 $

The OASIS DocBook Technical Committee (TC) is committed to the continued evolution of DocBook. As new needs are expressed by the DocBook-user community, the committee will adapt DocBook so it continues to meet the needs of its users.

The TC observes a very cautious policy regarding changes to the DTD. Backward-incompatible changes can only be introduced:

- In major releases (4.0, 5.0, 6.0, and so on)
- Only if the change was described in comments in the DTD in the previous major release

Changes made at point-releases are always backward-compatible to the previous major release. This policy assures that DocBook users always have time to prepare for any coming changes.

This appendix describes the changes planned for DocBook.

DocBook V3.1

DocBook V3.1, released in February 1999, introduced a number of new elements:

`MediaObject`

: `MediaObject` is a wrapper around `VideoObject`, `AudioObject`, `ImageObject`, and `TextObject`. The purpose of `MediaObject` is twofold: first, it introduces new element types to include video and audio content; second, it provides the option of alternative representations, including text, for objects in a document. `MediaObject`s also allow `Caption`s that may be longer than a simple title.

  Parallel to `MediaObject` are `InlineMediaObject`, an inline version, and `MediaObjectCO`, a media object with `Callout`s.

  For now, media objects and graphics exist together in version 5.0. `Graphic` and `InlineGraphic` will be removed from DocBook.

`InformalFigure`

: A figure wrapper without a title. This element was added largely for symmetry.

`Colophon`

: An end-of-the-book `Colophon`.

`Section`

`Section` is a recursive section. It exists parallel to, and must be used as an alternative to, `Sect1`.

`QandASet`

A set of questions and answers.

`Constant`

The `Constant` inline is for identifying constants. It has a `Class` attribute for identifying “limits” as a specific kind of constant.

`VarName`

Many authors have requested a tag for identifying variable names. Most often `Literal` (with or without a role) has been chosen as a compromise, but you can't question the utility of identifying variable names, so `VarName` was added.

A tag for identifying variable values does not seem as necessary. For immutable values, a specific tag other than `Literal` seems unnecessary, and `Replaceable` exists for values that are supposed to be filled in by the user.

DocBook V4.1 and DocBook XML V4.1.2

DocBook V4.1 and DocBook XML V4.1.2 became an OASIS Standard in February 2001.

DocBook V4 introduced a number of backward-incompatible changes.

The policy of the DocBook TC is that backward-incompatible changes can only be introduced in a full version release. They must also be described in comments in the DTD at least one full version earlier. In other words, all the planned version 4.0 incompatibilities were announced with version 3.0.

Backward-incompatible changes to DocBook that are planned for version 4.0:

- The `DocInfo` element will be split out into `ChapterInfo`, `AppendixInfo`, and so on. `ArtHeader` will be renamed to `ArticleInfo`. `SeriesInfo` may be discarded because it has become a special case of `BiblioSet`. `BookBiblio` will be discarded in favor of a new, more inclusive, structure for `BookInfo` (and for `ArticleInfo`, whose earlier `ArtHeader` form contained `BookBiblio`).
- The `%article.class;` entity may be removed from the `Book` content model, and made part of a new top-level document hierarchy.
- The `%nav.class;` entity, which appears in several divisions, will allow `ToCchap` instead of `ToC`.
- `MsgText` will be moved from `%tech.char.class;` to a more appropriate parameter entity.
- The following elements will have their content constrained to the `%smallcptr.char.mix;` mixture: `Action`, `Command`, `Database`, `Filename`, `Hardware`, `Interface`, `KeyCap`, `Literal`, `Option`, `Parameter`, `Property`, and `SystemItem`.
- `AuthorBlurb` and `Affiliation` will be removed from `%person.ident.mix;` and a new wrapper element will be created to allow association of those two elements with `Author` name information.
- `Epigraph` will not be appearing in `BlockQuote`.

- `Comment` will be renamed to `Remark` and will be excluded from itself.
- `GlossTerm` will be excluded from itself, and may be split into an element that appears in a `Glossary` and an element that can appear in the main text.
- The `Subject` attribute on `GlossDef` will be renamed `Keyword`.
- Two `SegTitle` elements will be required in `SegmentedList`.
- `Graphic` and `InlineGraphic` will be declared EMPTY. This change will require that end tags be removed and that any embedded graphic content be stored outside the SGML source and pointed to from an `Entityref` or `Fileref` attribute.
- The `OptMult` and `ReqMult` values for the `Choice` attribute on `Group` will be removed. Use the `Rep` attribute instead to indicate that the choice is repeatable.
- The content model group inside `FuncSynopsis` starting with `FuncDef` will not be available; you will have to use `FuncPrototype`. Also, you will be able to have a mixture of `FuncPrototypes` and `FuncSynopsisInfos` (this is not backward-incompatible all by itself).
- The `EnvironVar` and `Prompt` values for the `Class` attribute on `SystemItem` will be eliminated; use the `EnVar` and `Prompt` elements instead.

DocBook V4.2

DocBook V4.2 fixed a couple of small bugs and introduced a number of new features. Changes in DocBook V4.2 are explained in the DocBook Document Type Version 4.2[i].

EBNF Module

FIXME: write this section

HTML Forms Module

FIXME: write this section

MathML Module

FIXME: write this section

SVG Module

FIXME: write this section

[i] http://www.oasis-open.org/docbook/docbook-4.2.html

D

Resources

$Revision: 1.2 $
$Date: 2002/03/23 20:58:10 $

The quantity of information about SGML and XML is growing on a daily basis. This appendix strives to provide both a complete bibliography of the references mentioned explicitly in this book, and a sampling of resources for additional information about DocBook and about SGML and XML in general. Although not all of these resources are focused specifically on DocBook, they still provide helpful information for DocBook users.

Latest Versions of DocBook

As of July 1998, responsibility for the advancement and maintenance of the DocBook DTD has been transferred from the Davenport Group, which originated it, to the DocBook Technical Committee of OASIS (Organization for the Advancement of Structured Information Standards) at http://www.oasis-open.org/[i].

The latest releases of DocBook can be obtained from the official DocBook home page at http://www.oasis-open.org/docbook/[ii].

Resources for Resources

Here's where to find pointers to the subjects you want to find.

The Most Recent Version of This Book

> The most recent online version of this book can be found at http://docbook.org/.

The Most Recent Version of DocBook

> The most recent version of DocBook, and the most recent information about the DTD, can be found at the DocBook home page: http://www.oasis-open.org/docbook/.

Robin Cover's SGML/XML Web page

> Easily the largest and most up-to-date list of SGML/XML resources; can be found at http://www.oasis-open.org/cover/.

`comp.text.sgml` and `comp.text.xml`

> USENET newsgroups devoted to SGML and XML issues.

[i] http://www.oasis-open.org/
[ii] http://www.oasis-open.org/docbook/

FAQs

For pointers to several SGML FAQs, see http://www.oasis-open.org/cover/general.html#faq. The XML FAQ is available at http://www.ucc.ie/xml.

XML.com[viii]

XML.com[ix], run jointly by Songline Studios and Seybold, is a site devoted to making XML accessible.

Introductory Material on the Web

These documents provide a good background for a better understanding of SGML and XML.

A Gentle Introduction to SGML

A useful and simple document available in its original form at http://www-tei.uic.edu/orgs/tei/sgml/teip3sg/index.html [x].

A Technical Introduction to XML

A close look at the ins-and-outs of XML is available at http://nwalsh.com/docs/articles/xml/[xi].

References and Technical Notes on the Web

Entity Management

OASIS Technical Resolution 9401:1997 (Amendment 2 to TR 9401)[xii].

This document describes OASIS catalog files.

The SGML Declaration

The SGML Declaration,[xiii] by Wayne Wholer.

Table Interoperability: Issues for the CALS Table Model

OASIS Technical Research Paper 9501:1995[xiv].

Exchange Table Model Document Type Definition

OASIS Technical Resolution TR 9503:1995[xv].

[viii] http://www.xml.com/
[ix] http://www.xml.com/
[x] http://www-tei.uic.edu/orgs/tei/sgml/teip3sg/index.html
[xi] http://nwalsh.com/docs/articles/xml/
[xii] http://www.oasis-open.org/html/a401.htm
[xiii] http://www.oasis-open.org/cover/wlw11.html
[xiv] http://www.oasis-open.org/html/a501.htm
[xv] http://www.oasis-open.org/html/a503.htm

CALS Table Model Document Type Definition

OASIS Technical Memorandum TM 9502:1995[xvi]

XML Exchange Table Model Document Type Definition

OASIS Technical Memorandum TM 9901:1999[xvii].

Internet RFCs

RFCs (“Request for Comments”) are standards documents produced by the Internet Engineering Task Force (IETF).

RFC 1630[xviii]

Universal Resource Identifiers in WWW.

RFC 1736[xix]

Functional recommendations for Internet Resource Locators.

RFC 1737[xx]

Functional requirements for Uniform Resource Names.

RFC 1738[xxi]

Uniform Resource Locators (URL).

RFC 3066[xxii]

Tags for the identification of languages

Specifications

Here are pointers to the specifications.

The XML Specification [xxiii]

The W3C technical recommendation that defines XML 1.0.

Namespaces in XML[xxiv]

The W3C technical recommendation that defines XML namespaces.

[xvi] http://www.oasis-open.org/html/a502.htm
[xvii] http://www.oasis-open-org/html/a901.htm
[xviii] http://www.cis.ohio-state.edu/htbin/rfc/rfc1630.html
[xix] http://www.cis.ohio-state.edu/htbin/rfc/rfc1736.html
[xx] http://www.cis.ohio-state.edu/htbin/rfc/rfc1737.html
[xxi] http://www.cis.ohio-state.edu/htbin/rfc/rfc1738.html
[xxii] http://www.cis.ohio-state.edu/htbin/rfc/rfc3066.html
[xxiii] http://www.w3.org/TR/REC-xml
[xxiv] http://www.w3.org/TR/REC-xml-names/

Mathematical Markup Language (MathML) 1.0 Specification[xxv]

The W3C technical recommendation that defines MathML, an XML representation of mathematical equations.

The Unicode Standard, Version 2.0[xxvi]

The Unicode standard.

Unicode Technical Report #8[xxvii]

Version 2.1 of the Unicode standard.

Dublin Core Metadata Element Set, Version 1.1: Reference Description[xxviii]

Version 1.1 of the Dublin Core Metadata Initiative's Metadata ELement Set.

Getty Thesaurus of Geographic Names[xxix]

A controlled vocabulary of geographic place names.

Books and Printed Resources

There are also a number of books worth checking out:

Bibliography

[maler96] *Developing SGML DTDs*. From Text to Model to Markup. Eve Maler and Jeanne El Andaloussi. 0-13-309881-8. Prentice-Hall PTR. Upper Saddle River New Jersey . 1996.

[] *Practical SGML*. Erik van Herwijnen. 2. 0-7923-9434-8. Kluwer Academic Press. 1994. An introductory book, but not a simple one..

[] *The SGML Handbook*. Charles Goldfarb and Yuri Rubinksy. 0-7923-9434-8. 1991. Oxford University Press. A reference book by the author of the SGML ISO Standard..

[] *SGML: an author's guide to the Standard Generalized Markup Language*. Martin Bryan. 0-201-17535-5. 1988. Addison-Wesley Publishing Company.

[] *$GML: The Billion Dollar Secret*. Chet Ensign. 0-13-226705-5. 1998. Prentice Hall. Effective SGML evangelism..

[] *Creating Documents with XML*. Chris Maden. 1-56592-518-1. 1999. O'Reilly & Associates. An introductory book about XML..

[] *XML: A Primer*. Simon St. Laurent. 1-5582-8592-X. 1998. MIS:Press/IDG Books Worldwide. Another introductory book about XML..

[xxv] http://www.w3.org/TR/REC-MathML/
[xxvi] http://www.unicode.org/unicode/uni2book/u2.html
[xxvii] http://www.unicode.org/unicode/reports/tr8.html
[xxviii] http://dublincore.org/documents/dces/
[xxix] http://www.getty.edu/research/tools/vocabulary/tgn/

[] *Understanding SGML and XML Tools*. Peter Flynn. 0-7923-8169-6. 1998. Kluwer Academic Publishers. The standard work on SGML/XML software..

[] *The LaTeX Web Companion*. Integrating TeX, HTML, and XML. Michel Goosens and Sebastian Rahtz. 0-201-43311-7. 1999. Addison-Wesley Publishing Company.

SGML/XML Tools

An attempt to provide a detailed description of all of the SGML/XML tools available is outside the scope of this book.

For a list of recent of SGML tools, check out Robin Cover's SGML/XML page at OASIS: http://www.oasis-open.org/cover[xxx].

For a list of XML tools, check out XML.com: http://www.xml.com/.

[xxx] http://www.oasis-open.org/cover

E

What's on the CD-ROM?

$Revision: 1.1 $
$Date: 2001/08/02 10:22:22 $

The CD-ROM that accompanies the print version of this book contains a number of useful resources.

Please read the `readme.txt` file in the root directory of the CD-ROM. It describes any last-minute changes or additions that were made to the CD-ROM after this appendix was written.

DocBook: The Definitive Guide

`/sgml/` contains the sources for this book in SGML.

`/html/` contains an online version of this book in HTML.

`/hepl/` contains a compiled HTML Help version of this book.

`/examples/` contains the complete examples from this book.

The DocBook DTD

`/dtds/docbook/db30` contains DocBook V3.0.

`/dtds/docbook/db31` contains DocBook V3.1.

`/dtds/docbk/db315` contains DocBk XML V3.1.5.

`/dtds/docbk/sdb3151` contains a simplified DocBk XML V3.1.5.1.

`/dtds/isoents` contains ISO entity sets needed for the DTDs.

`/dtds/usadod` contains the CALS table model DTD needed for the SGML DocBook DTDs.

Stylesheets

`/style/` contains various stylesheets.

`/style/dsssl/docbook/` contains the Modular DocBook DSSSL stylesheets. These are the Jade stylesheets described in Chapter 4.

`/dtds/dsssl/anotess/` contains the Annotated DSSSL stylesheet DTD and related files.

`/style/xsl/` contains various XSL stylesheets.

`/style/xsl/docbook/` contains the XSL DocBook Stylesheets V0.12.

Other Programs

The `/apps` directory contains source and binary releases of other, related software, including the Jade and XT distributions. The `/bin` directory contains the format script briefly discussed in Chapter 5.

F

Interchanging DocBook Documents

$Revision: 1.2 $
$Date: 2001/08/13 21:42:26 $

One of the early factors that motivated the development of the DocBook DTD was the desire for companies to interchange documents. In particular, UNIX vendors wanted to be able to interchange common UNIX documentation.

A great deal of effort went into making sure that DocBook could handle most (probably all) of the documents that were likely to be exchanged. This avoids the guaranteed interchange problem of DTD extension.

However, simply using DocBook or a subset of it is not enough to ensure successful interchange. If you send someone your DocBook files, you must also tell the recipient about the markup your documents use and any of your additional markup conventions and processing expectations that impose constraints on processing.

This appendix provides a sample interchange questionnaire to help draw your attention to those areas that might be problematic.

For maximum portability, delivered DocBook documents should be accompanied by a filled-out interchange questionnaire. Because each situation is unique, you may need to supply additional information (such as layout specifications) in order to deliver a complete package.

DocBook and SGML Usage

1. What version of the DTD are you using?

2. Did you use any markup features of the DTD that have been flagged as obsolete (to be removed at the next major version of DocBook)? If so, which ones?

3. Did you extend DocBook in any way, inside or outside the provided customization mechanisms? How? All extensions must be negotiated with the recipient.

4. Did you remove markup from DocBook to create a subset? If you used a subset of DocBook, supply the subset you used. (Note that even the removal of references to ISO entity sets creates a subset.)

5. Did you use the supplied SGML declaration or another one? If you used another one, provide it.

6. Did you use the supplied catalog or another one, or none at all? If you used a catalog other than the one supplied, provide it.

7. If your documents bear no document type declaration, and you parsed them with a document declaration (with or without an internal subset), supply it.

8. Did you add `NOTATION` declarations? If so, what are they? List all data content notations used in your documents.

9. Did you use the `SUBDOC` feature? If so, how did you manage the name spaces of their IDs, if you managed them at all?

10. Did you use character sets other than ISO 8859-1 (Latin 1)? If so, which ones? How did you use them?

11. Did you declare and use character entities and other general entities besides the ISO entity sets? If so, supply the entity declarations and the desired appearance of the additional character entities.

12. Are your document files normalized to include all markup explicitly?

13. Are you supplying a document fragment? If so, have you provided any necessary auxiliary information (such as meta-information) for the fragment? Are there any attribute values that haven't been specified that you expect to inherit from a parent that isn't present?

Processing Requirements and Markup Interpretation

1. What formatting that you applied do you require your interchange partner to apply? For example, where and how must text be generated in order for the documents to make sense?

2. Did you supply your stylesheet and information regarding its format and version?

3. How did you create tables of contents, lists of titles, and indexes? Are they stored in DocBook form? If so, did you generate them (and according to what rules) or create them by hand?

4. If you used the `Lang` common attribute, why, and to what effect?

5. If you used the `Remap` common attribute, why, and to what effect?

6. If you used the `Role` common attribute, why, and to what effect?

7. If you used the effectivity attributes, which did you use, why, and to what effect?

8. What values did you give to the `Label` attribute and how are they to be interpreted for rendering?

9. What values did you give to the `Mark` and `Override` attributes for lists and how are they to be interpreted for rendering?

10. Did you use the `Renderas` attribute on sections and/or `BridgeHead`s?

11. Did you supply all keyword values you used for attributes whose declared values are not enumerated tokens, along with the expected processing for the occurrence of each keyword?

12. Did you use markup to control width, size, and/or positioning settings (such as “fold-out” or “centered”) for graphics, line specific regions, and tables? If so, how?

13. For rendering of `Sidebar`s, must these appear in the flow of the text where they appear in your files, or may they float?

14. Did you use `Callout`s? If so, what are the processing expectations for callout marks?

15. Did you use `ItemizedList`s? If so, what are the processing expectations for the marks on list items and nested lists?

16. For `Graphic` and `InlineGraphic`, what method(s) did you use for providing graphic data: element content, `Fileref` attribute, or `Entityref` attribute?

17. For `MediaObject` and `InlineMediaObject`, what method(s) did you use for selecting between alternative presentations?

18. How did you specify column widths in tables? Did you use vertical spans? Did you use horizontal spans?

19. Did you use `EntryTbl`s?

20. If you used the `Type` attribute on the link elements, why, and to what effect?

21. If you used `XRef`, do your interchange partners need additional information about the semantic of the link? Have you provided it, perhaps with `Role`?

22. Did you use the `Subject` attribute on `GlossDef`? If so, did you use a thesaurus of terms? If so, what is it?

23. If you used the `Class` attribute on `RefMiscInfo`, why and to what effect?

24. If you used `ULink` and provided URLs that are queries, what back-end processing is required to resolve those queries?

25. `FileRef` or `EntityRef` is supplied on every `Graphic`, `InlineGraphic`, `AudioData`, `ImageData`, and `VideoData` element. If one is not present, what is the expectation?

26. If your `Bibliography`s or `Glossary`s have special processing expectations, such as the ability to display only those entries that are cited, have you described them?

27. If your `Bibliography`s contain `BiblioEntry`s, what are the processing expectations? Which fields are selected for display? What punctuation is added, and where?

28. Do `GlossTerm`s or other elements have implicit linking relationships that must be obeyed or handled in presentation?

29. Did you use any processing instructions? Why and what for? Are they in entities?

30. What copyfitting have you already done, and for what outputs?

31. Are the `Revision`s in your `RevHistory`s sorted in any particular way?

Miscellaneous

1. Have you checked your files for viruses?

2. If you used `BridgeHead`, have you joined a recovery support group?

G

DocBook Quick Reference

DocBook V3.1

Element	Brief Description
`Abbrev`	An abbreviation, especially one followed by a period
`Abstract`	A summary
`Accel`	A graphical user interface (GUI) keyboard shortcut
`Ackno`	Acknowledgements in an `Article`
`Acronym`	An often pronounceable word made from the initial (or selected) letters of a name or phrase
`Action`	A response to a user event
`Address`	A real-world address, generally a postal address
`Affiliation`	The institutional affiliation of an individual
`Alt`	Text representation for a graphical element
`Anchor`	A spot in the document
`Answer`	An answer to a question posed in a `QandASet`
`Appendix`	An appendix in a `Book` or `Article`
`Application`	The name of a software program
`Area`	A region defined for a `Callout` in a graphic or code example
`AreaSet`	A set of related areas in a graphic or code example
`AreaSpec`	A collection of regions in a graphic or code example
`Arg`	An argument in a `CmdSynopsis`
`ArtHeader`	Meta-information for an `Article`
`ArtPageNums`	The page numbers of an article as published
`Article`	An article
`Attribution`	The source of a block quote or epigraph
`AudioData`	Pointer to external audio data
`AudioObject`	A wrapper for audio data and its associated meta-information
`Author`	The name of an individual author
`AuthorBlurb`	A short description or note about an author

Element	Brief Description
AuthorGroup	Wrapper for author information when a document has multiple authors or collabarators
AuthorInitials	The initials or other short identifier for an author
BeginPage	The location of a page break in a print version of the document
BiblioDiv	A section of a Bibliography
BiblioEntry	An entry in a Bibliography
BiblioMSet	A “cooked” container for related bibliographic information
BiblioMisc	Untyped bibliographic information
BiblioMixed	An entry in a Bibliography
BiblioSet	A “raw” container for related bibliographic information
Bibliography	A bibliography
BlockQuote	A quotation set off from the main text
Book	A book
BookBiblio	Meta-information about a book used in a bibliographical citation
BookInfo	Meta-information for a Book
BridgeHead	A free-floating heading
CO	The location of a callout embedded in text
Callout	A “called out” description of a marked Area
CalloutList	A list of Callouts
Caption	A caption
Caution	A note of caution
Chapter	A chapter, as of a book
Citation	An inline bibliographic reference to another published work
CiteRefEntry	A citation to a reference page
CiteTitle	The title of a cited work
City	The name of a city in an address
ClassName	The name of a class, in the object-oriented programming sense
CmdSynopsis	A syntax summary for a software command
ColSpec	Specifications for a column in a table
Collab	Identifies a collaborator
CollabName	The name of a collaborator
Colophon	Text at the back of a book describing facts about its production
Command	The name of an executable program or other software command
Comment	A comment intended for presentation in a draft manuscript
ComputerOutput	Data, generally text, displayed or presented by a computer
ConfDates	The dates of a conference for which a document was written
ConfGroup	A wrapper for document meta-information about a conference

Element	Brief Description
`ConfNum`	An identifier, frequently numerical, associated with a conference for which a document was written
`ConfSponsor`	The sponsor of a conference for which a document was written
`ConfTitle`	The title of a conference for which a document was written
`Constant`	A programming or system constant
`ContractNum`	The contract number of a document
`ContractSponsor`	The sponsor of a contract
`Contrib`	A summary of the contributions made to a document by a credited source
`Copyright`	Copyright information about a document
`CorpAuthor`	A corporate author, as opposed to an individual
`CorpName`	The name of a corporation
`Country`	The name of a country
`Database`	The name of a database, or part of a database
`Date`	The date of publication or revision of a document
`Dedication`	A wrapper for the dedication section of a book
`DocInfo`	Meta-data for a book component
`Edition`	The name or number of an edition of a document
`Editor`	The name of the editor of a document
`Email`	An email address
`Emphasis`	Emphasized text
`EnVar`	A software environment variable
`Entry`	A cell in a table
`EntryTbl`	A subtable appearing in place of an `Entry` in a table
`Epigraph`	A short inscription at the beginning of a document or component
`Equation`	A displayed mathematical equation
`ErrorCode`	An error code
`ErrorName`	An error name
`ErrorType`	The classification of an error message
`Example`	A formal example, with a title
`Fax`	A fax number
`Figure`	A formal figure, generally an illustration, with a title
`Filename`	The name of a file
`FirstName`	The first name of a person
`FirstTerm`	The first occurrence of a term
`Footnote`	A footnote
`FootnoteRef`	A cross reference to a footnote (a footnote mark)

Element	Brief Description
ForeignPhrase	A word or phrase in a language other than the primary language of the document
FormalPara	A paragraph with a title
FuncDef	A function (subroutine) name and its return type
FuncParams	Parameters for a function referenced through a function pointer in a synopsis
FuncPrototype	The prototype of a function
FuncSynopsis	The syntax summary for a function definition
FuncSynopsisInfo	Information supplementing the FuncDefs of a FuncSynopsis
Function	The name of a function or subroutine, as in a programming language
GUIButton	The text on a button in a GUI
GUIIcon	Graphic and/or text appearing as a icon in a GUI
GUILabel	The text of a label in a GUI
GUIMenu	The name of a menu in a GUI
GUIMenuItem	The name of a terminal menu item in a GUI
GUISubmenu	The name of a submenu in a GUI
GlossDef	A definition in a GlossEntry
GlossDiv	A division in a Glossary
GlossEntry	An entry in a Glossary or GlossList
GlossList	A wrapper for a set of GlossEntrys
GlossSee	A cross-reference from one GlossEntry to another
GlossSeeAlso	A cross-reference from one GlossEntry to another
GlossTerm	A glossary term
Glossary	A glossary
Graphic	A displayed graphical object (not an inline)
GraphicCO	A graphic that contains callout areas
Group	A group of elements in a CmdSynopsis
Hardware	A physical part of a computer system
Highlights	A summary of the main points of the discussed component
Holder	The name of the individual or organization that holds a copyright
Honorific	The title of a person
ISBN	The International Standard Book Number of a document
ISSN	The International Standard Serial Number of a periodical
ITermSet	A set of index terms in the meta-information of a document
ImageData	Pointer to external image data
ImageObject	A wrapper for image data and its associated meta-information
ImageObjectCO	A wrapper for an image object with callouts

Element	Brief Description
Important	An admonition set off from the text
Index	An index
IndexDiv	A division in an index
IndexEntry	An entry in an index
IndexTerm	A wrapper for terms to be indexed
InformalEquation	A displayed mathematical equation without a title
InformalExample	A displayed example without a title
InformalFigure	A untitled figure
InformalTable	A table without a title
InlineEquation	A mathematical equation or expression occurring inline
InlineGraphic	An object containing or pointing to graphical data that will be rendered inline
InlineMediaObject	An inline media object (video, audio, image, and so on)
Interface	An element of a GUI
InterfaceDefinition	The name of a formal specification of a GUI
InvPartNumber	An inventory part number
IssueNum	The number of an issue of a journal
ItemizedList	A list in which each entry is marked with a bullet or other dingbat
JobTitle	The title of an individual in an organization
KeyCap	The text printed on a key on a keyboard
KeyCode	The internal, frequently numeric, identifier for a key on a keyboard
KeyCombo	A combination of input actions
KeySym	The symbolic name of a key on a keyboard
Keyword	One of a set of keywords describing the content of a document
KeywordSet	A set of keywords describing the content of a document
LegalNotice	A statement of legal obligations or requirements
LineAnnotation	A comment on a line in a verbatim listing
Lineage	The portion of a person's name indicating a relationship to ancestors
Link	A hypertext link
ListItem	A wrapper for the elements of a list item
Literal	Inline text that is some literal value
LiteralLayout	A block of text in which line breaks and white space are to be reproduced faithfully
LoT	A list of the titles of formal objects (as tables or figures) in a document
LoTentry	An entry in a list of titles

Element	Brief Description
ManVolNum	A reference volume number
Markup	A string of formatting markup in text that is to be represented literally
MediaLabel	A name that identifies the physical medium on which some information resides
MediaObject	A displayed media object (video, audio, image, etc.)
MediaObjectCO	A media object that contains callouts
Member	An element of a simple list
MenuChoice	A selection or series of selections from a menu
ModeSpec	Application-specific information necessary for the completion of an OLink
MouseButton	The conventional name of a mouse button
Msg	A message in a message set
MsgAud	The audience to which a message in a message set is relevant
MsgEntry	A wrapper for an entry in a message set
MsgExplan	Explanatory material relating to a message in a message set
MsgInfo	Information about a message in a message set
MsgLevel	The level of importance or severity of a message in a message set
MsgMain	The primary component of a message in a message set
MsgOrig	The origin of a message in a message set
MsgRel	A related component of a message in a message set
MsgSet	A detailed set of messages, usually error messages
MsgSub	A subcomponent of a message in a message set
MsgText	The actual text of a message component in a message set
Note	A message set off from the text
OLink	A link that addresses its target indirectly, through an entity
ObjectInfo	Meta-information for an object
Option	An option for a software command
Optional	Optional information
OrderedList	A list in which each entry is marked with a sequentially incremented label
OrgDiv	A division of an organization
OrgName	The name of an organization other than a corporation
OtherAddr	Uncategorized information in address
OtherCredit	A person or entity, other than an author or editor, credited in a document
OtherName	A component of a persons name that is not a first name, surname, or lineage
POB	A post office box in an address

Element	Brief Description
PageNums	The numbers of the pages in a book, for use in a bibliographic entry
Para	A paragraph
ParamDef	Information about a function parameter in a programming language
Parameter	A value or a symbolic reference to a value
Part	A division in a book
PartIntro	An introduction to the contents of a part
Phone	A telephone number
Phrase	A span of text
Postcode	A postal code in an address
Preface	Introductory matter preceding the first chapter of a book
Primary	The primary word or phrase under which an index term should be sorted
PrimaryIE	A primary term in an index entry, not in the text
PrintHistory	The printing history of a document
Procedure	A list of operations to be performed in a well-defined sequence
ProductName	The formal name of a product
ProductNumber	A number assigned to a product
ProgramListing	A literal listing of all or part of a program
ProgramListingCO	A program listing with associated areas used in callouts
Prompt	A character or string indicating the start of an input field in a computer display
Property	A unit of data associated with some part of a computer system
PubDate	The date of publication of a document
Publisher	The publisher of a document
PublisherName	The name of the publisher of a document
PubsNumber	A number assigned to a publication other than an ISBN or ISSN or inventory part number
QandADiv	A titled division in a QandASet
QandAEntry	A question/answer set within a QandASet
QandASet	A question-and-answer set
Question	A question in a QandASet
Quote	An inline quotation
RefClass	The scope or other indication of applicability of a reference entry
RefDescriptor	A description of the topic of a reference page
RefEntry	A reference page (originally a UNIX man-style reference page)
RefEntryTitle	The title of a reference page
RefMeta	Meta-information for a reference entry

Element	Brief Description
RefMiscInfo	Meta-information for a reference entry other than the title and volume number
RefName	The name of (one of) the subject(s) of a reference page
RefNameDiv	The name, purpose, and classification of a reference page
RefPurpose	A short (one sentence) synopsis of the topic of a reference page
RefSect1	A major subsection of a reference entry
RefSect1Info	Meta-information for a RefSect1
RefSect2	A subsection of a RefSect1
RefSect2Info	Meta-information for a RefSect2
RefSect3	A subsection of a RefSect2
RefSect3Info	Meta-information for a RefSect3
RefSynopsisDiv	A syntactic synopsis of the subject of the reference page
RefSynopsisDivInfo	Meta-information for a RefSynopsisDiv
Reference	A collection of reference entries
ReleaseInfo	Information about a particular release of a document
Replaceable	Content that may or must be replaced by the user
ReturnValue	The value returned by a function
RevHistory	A history of the revisions to a document
RevNumber	A document revision number
RevRemark	A description of a revision to a document
Revision	An entry describing a single revision in the history of the revisions to a document
Row	A row in a table
SBR	An explicit line break in a command synopsis
SGMLTag	A component of SGML markup
Screen	Text that a user sees or might see on a computer screen
ScreenCO	A screen with associated areas used in callouts
ScreenInfo	Information about how a screen shot was produced
ScreenShot	A representation of what the user sees or might see on a computer screen
Secondary	A secondary word or phrase in an index term
SecondaryIE	A secondary term in an index entry, rather than in the text
Sect1	A top-level section of document
Sect1Info	Meta-information for a Sect1
Sect2	A subsection within a Sect1
Sect2Info	Meta-information for a Sect2
Sect3	A subsection within a Sect2
Sect3Info	Meta-information for a Sect3

Element	Brief Description
Sect4	A subsection within a Sect3
Sect4Info	Meta-information for a Sect4
Sect5	A subsection within a Sect4
Sect5Info	Meta-information for a Sect5
Section	A recursive section
SectionInfo	Meta-information for a recursive section
See	Part of an index term directing the reader instead to another entry in the index
SeeAlso	Part of an index term directing the reader also to another entry in the index
SeeAlsoIE	A “See also” entry in an index, rather than in the text
SeeIE	A “See” entry in an index, rather than in the text
Seg	An element of a list item in a segmented list
SegListItem	A list item in a segmented list
SegTitle	The title of an element of a list item in a segmented list
SegmentedList	A segmented list, a list of sets of elements
SeriesInfo	Information about the publication series of which a book is a part
SeriesVolNums	Numbers of the volumes in a series of books
Set	A collection of books
SetIndex	An index to a set of books
SetInfo	Meta-information for a Set
ShortAffil	A brief description of an affiliation
Shortcut	A key combination for an action that is also accessible through a menu
Sidebar	A portion of a document that is isolated from the main narrative flow
SimPara	A paragraph that contains only text and inline markup, no block elements
SimpleList	An undecorated list of single words or short phrases
SimpleSect	A section of a document with no subdivisions
SpanSpec	Formatting information for a spanned column in a table
State	A state or province in an address
Step	A unit of action in a procedure
Street	A street address in an address
StructField	A field in a structure (in the programming language sense)
StructName	The name of a structure (in the programming language sense)
SubSteps	A wrapper for steps that occur within steps in a procedure
Subject	One of a group of terms describing the subject matter of a document
SubjectSet	A set of terms describing the subject matter of a document

Element	Brief Description
`SubjectTerm`	A term in a group of terms describing the subject matter of a document
`Subscript`	A subscript (as in H_2O, the molecular formula for water)
`Subtitle`	The subtitle of a document
`Superscript`	A superscript (as in x^2, the mathematical notation for x multiplied by itself)
`Surname`	A family name; in western cultures the “last name”
`Symbol`	A name that is replaced by a value before processing
`SynopFragment`	A portion of a `CmdSynopsis` broken out from the main body of the synopsis
`SynopFragmentRef`	A reference to a fragment of a command synopsis
`Synopsis`	A general-purpose element for representing the syntax of commands or functions
`SystemItem`	A system-related item or term
`TBody`	A wrapper for the rows of a table or informal table
`TFoot`	A table footer consisting of one or more rows
`TGroup`	A wrapper for the main content of a table, or part of a table
`THead`	A table header consisting of one or more rows
`Table`	A formal table in a document
`Term`	The word or phrase being defined or described in a variable list
`Tertiary`	A tertiary word or phrase in an index term
`TertiaryIE`	A tertiary term in an index entry, rather than in the text
`TextObject`	A wrapper for a text description of an object and its associated meta-information
`Tip`	A suggestion to the user, set off from the text
`Title`	The text of the title of a section of a document or of a formal block-level element
`TitleAbbrev`	The abbreviation of a `Title`
`ToC`	A table of contents
`ToCback`	An entry in a table of contents for a back matter component
`ToCchap`	An entry in a table of contents for a component in the body of a document
`ToCentry`	A component title in a table of contents
`ToCfront`	An entry in a table of contents for a front matter component
`ToClevel1`	A top-level entry within a table of contents entry for a chapter-like component
`ToClevel2`	A second-level entry within a table of contents entry for a chapter-like component

Element	Brief Description
ToClevel3	A third-level entry within a table of contents entry for a chapter-like component
ToClevel4	A fourth-level entry within a table of contents entry for a chapter-like component
ToClevel5	A fifth-level entry within a table of contents entry for a chapter-like component
ToCpart	An entry in a table of contents for a part of a book
Token	A unit of information
Trademark	A trademark
Type	The classification of a value
ULink	A link that addresses its target by means of a URL (Uniform Resource Locator)
UserInput	Data entered by the user
VarArgs	An empty element in a function synopsis indicating a variable number of arguments
VarListEntry	A wrapper for a set of terms and the associated description in a variable list
VarName	The name of a variable
VariableList	A list in which each entry is composed of a set of one or more terms and an associated description
VideoData	Pointer to external video data
VideoObject	A wrapper for video data and its associated meta-information
Void	An empty element in a function synopsis indicating that the function in question takes no arguments
VolumeNum	The volume number of a document in a set (as of books in a set or articles in a journal)
Warning	An admonition set off from the text
WordAsWord	A word meant specifically as a word and not representing anything else
XRef	A cross reference to another part of the document
Year	The year of publication of a document

DocBook V4.1.2

All of the elements in DocBook V3.1 *except* ArtHeader, BookBiblio, Comment, DocInfo, InterfaceDefinition, SeriesInfo plus the following additional elements:

Element	Brief Description
appendixinfo	Meta-information for an Appendix
articleinfo	Meta-information for an Article
bibliography-info	Meta-information for a Bibliography

Element	Brief Description
chapterinfo	Meta-information for a Chapter
classsynopsis	The syntax summary for a class definition
classsynopsisinfo	Information supplementing the contents of a ClassSynopsis
constructorsynopsis	A syntax summary for a constructor
destructorsynopsis	A syntax summary for a destructor
exceptionname	The name of an exception
fieldsynopsis	The name of a field in a class definition
glossaryinfo	Meta-information for a Glossary
indexinfo	Meta-information for an Index
initializer	The initializer for a FieldSynopsis
interfacename	The name of an interface
methodname	The name of a method
methodparam	Parameters to a method
methodsynopsis	A syntax summary for a method
modifier	Modifiers in a synopsis
ooclass	A class in an object-oriented programming language
ooexception	An exception in an object-oriented programming language
oointerface	An interface in an object-oriented programming language
partinfo	Meta-information for a Part
prefaceinfo	Meta-information for a Preface
refentryinfo	Meta-information for a Refentry
referenceinfo	Meta-information for a Reference
remark	A remark (or comment) intended for presentation in a draft manuscript
revdescription	A extended description of a revision to a document
setindexinfo	Meta-information for a SetIndex
sidebarinfo	Meta-information for a Sidebar
simplemsgentry	A wrapper for a simpler entry in a message set

DocBook EBNF Module V1.0

The following elements in addition to the elements in the version of DocBook to which this module is added:

Element	Brief Description
constraint	A constraint in an EBNF production
constraintdef	The definition of a constraint in an EBNF production

Element	Brief Description
`lhs`	The left-hand side of an EBNF production
`nonterminal`	A non-terminal in an EBNF production
`production`	A production in a set of EBNF productions
`productionrecap`	A cross-reference to an EBNF production
`productionset`	A set of EBNF productions
`rhs`	The right-hand side of an EBNF production

DocBook HTML Forms Module V1.0

The HTML Forms Module adds the HTML `Form` element and related elements.

DocBook MathML Module V1.0

The MathML Module adds the elements from the MathML namespace.

DocBook SVG Module V1.0

The SVG Module adds the elements from the SVG namespace.

H

GNU Free Documentation License

Version 1.1, March 2000

PREAMBLE

The purpose of this License is to make a manual, textbook, or other written document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you".

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (For example, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, whose contents can be viewed and edited directly and straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup has been designed to thwart or discourage subsequent modification by readers is not Transparent. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML designed for human modification. Opaque formats include PostScript, PDF, proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

COPYING IN QUANTITY

If you publish printed copies of the Document numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a publicly-accessible computer-network location containing a complete Transparent copy of the Document, free of added material, which the general network-using public has access to download anonymously at no charge using public-standard network protocols. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least

one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.

B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has less than five).

C. State on the Title page the name of the publisher of the Modified Version, as the publisher.

D. Preserve all the copyright notices of the Document.

E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.

F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.

G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.

H. Include an unaltered copy of this License.

I. Preserve the section entitled "History", and its title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.

K. In any section entitled "Acknowledgements" or "Dedications", preserve the section's title, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.

L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.

M. Delete any section entitled "Endorsements". Such a section may not be included in the Modified Version.

N. Do not retitle any existing section as "Endorsements" or to conflict in title with any Invariant Section.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties--for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections entitled "History" in the various original documents, forming one section entitled "History"; likewise combine any sections entitled "Acknowledgements", and any sections entitled "Dedications". You must delete all sections entitled "Endorsements."

COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, does not as a whole count as a Modified Version of the Document, provided no compilation copyright is claimed for the compilation. Such a compilation is called an "aggregate", and this License does not apply to the other self-contained works thus compiled with the Document, on account of their being thus compiled, if they are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one quarter of the entire aggregate, the Document's Cover Texts may be placed on covers that surround only the Document within the aggregate. Otherwise they must appear on covers around the whole aggregate.

TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License provided that you also include the original English version of this License. In case of a disagreement between the translation and the original English version of this License, the original English version will prevail.

TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided for under this License. Any other attempt to copy, modify, sublicense or distribute the Document is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See http://www.gnu.org/copyleft/.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation.

How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

> Copyright (c) YEAR YOUR NAME. Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.1 or any later version published by the Free Software Foundation; with the Invariant Sections being LIST THEIR TITLES, with the Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST. A copy of the license is included in the section entitled "GNU Free Documentation License".

If you have no Invariant Sections, write "with no Invariant Sections" instead of saying which ones are invariant. If you have no Front-Cover Texts, write "no Front-Cover Texts" instead of "Front-Cover Texts being LIST"; likewise for Back-Cover Texts.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.