

DOCUMENT

**AN IN-HOUSE
TECHNICAL DOCUMENTATION SYSTEM**

DOCUMENTATION PRODUCTION

FOUR MAIN GROUPS ARE INVOLVED

- **WRITERS**
- **PRODUCTION PERSONNEL**
- **EDITORS**
- **READERS**

EACH GROUP HAS A SET OF OBJECTIVES

**A SUCCESSFUL DOCUMENTATION PRODUCTION SYSTEM
MUST MEET THOSE OBJECTIVES**

DOCUMENTATION PRODUCTION

OBJECTIVES OF THE READER

- **ACCURATE AND COMPLETE**
- **EASY TO READ (TYPOGRAPHICALLY)**
 - **FONTS**
 - **WHITE SPACE**
- **EASY TO FIND INFORMATION**
 - **SPATIAL ORGANIZATION (A.K.A. FORMATTING)**
 - **INDEX, TOC, ACCURATE XREFS, EXAMPLES, TABLES, FIGURES**

DOCUMENTATION PRODUCTION

OBJECTIVES OF THE WRITER

- **EASY TO ENTER INFORMATION**
- **ACCURATE & TIMELY FEEDBACK AS TO FORMAT**
- **EASY TO INCORPORATE CONTENT CHANGES**
- **EASY TO MAINTAIN (2ND, 3RD GENERATION UPDATES)**
- **AUTOMATION OF TEDIOUS TASKS**
 - **INDEX**
 - **TOC**
 - **XREF GENERATION**

DOCUMENTATION PRODUCTION

OBJECTIVES OF THE PRODUCTION GROUP

- **QUICK TURNAROUND**
- **STREAMLINED, WELL-DEFINED PRODUCTION PROCESS**
- **EASY TO ACCOMMODATE WRITERS'/EDITORS' FORMATTING REQS.**
- **WELL DEFINED, DOCUMENTED FORMATS**
- **EASY TO INCORPORATE LAST MINUTE CONTENT CHANGES**
- **AUTOMATION OF TEDIOUS TASKS**
 - **PAGINATION**
 - **PASTING IN RUNNING HEADS, FEET**
 - **ART**
 - **PAGE NUMBERING**

DOCUMENTATION PRODUCTION

OBJECTIVES OF THE EDITOR

- **ACCURATE & TIMELY FEEDBACK AS TO FORMAT**
- **QUICK TURNAROUND IN PRODUCTION**
- **OUTPUT SHOULD BE HIGH QUALITY AND APTLY FORMATTED**
- **INFORMATION SHOULD BE WELL ORGANIZED**

DOCUMENTATION PRODUCTION

HISTORICAL PROBLEMS

- **OUTPUT QUALITY NOT STATE-OF-THE-ART**
- **FORMATTING LANGUAGES DIFFICULT TO LEARN AND USE**
- **CENTRALIZED MAINTENANCE OF FILES CUMBERSOME**
- **TRACKING OF DOCUMENTS (AMONG WRITERS, EDITORS, PRODUCTION GROUP) INEFFICIENT**

DOCUMENTATION PRODUCTION

HISTORICAL PROBLEMS

- **FORMAT CONSISTENCY DIFFICULT TO ENFORCE**
- **ACCOMMODATING NEW OR COMPLEX FORMATS NOT EASY**
- **FINAL PRODUCTION TIME-CONSUMING:**
 - **MANUAL PAGINATION**
 - **MANUAL PASTE-UP OF TABLES AND EXAMPLES**
 - **MANUAL INDEXING**

DOCUMENT: THE SOLUTION

MAJOR COMPONENTS OF THE SYSTEM

- **SDML**
- **TEXMAC**
- **TEX**
- **CMS/DOC**

SDML

THE SOFTWARE DOCUMENTATION MARKUP LANGUAGE

- HIGH-LEVEL, STRUCTURALLY ORIENTED "TAGS"
- GLOBAL TAGS FOR GENERAL USE

<TABLE>	<CHAPTER>
<CODEEXAMPLE>	<HEAD1>
<FIGURE>	<HEAD2>
<NLIST>	<SUBHEAD1>
<ULIST>	<SUBHEAD2>
<TWOCOLLIST>	<P>

- TEMPLATES FOR RIGIDLY STRUCTURED ELEMENTS

```

<VMS_ROUTINE>(name\full-name)
<ROUTINE_TYPE>(keyword) <comment>(SYS, RMS, RTL, etc.)
<OVERVIEW>
                                <comment>(Overview paragraph)
<ENDOVERVIEW>

<FORMAT>
<FORMAT>(routine\args,...)
  <FRTN>(routine) <FARGS>(arg1, arg2, arg3,...)
  <JSB_ENTRIES>          <comment>(Optional section)
  <JSB>(name)
<ENDFORMAT>

<RETURNS>(vms-usage\type\access\mechanism[\additional-info])
<RETTEXT>          <comment>(Text optional)
<ENDRETTEXT>      <comment>(Required only if <rettext> is specified)

<ARGDEFLIST>          <comment>(Argument definition list)
  <ARGITEM>(name\vms-usage\type\access\mechanism[\additional-info])
  <ARGDEF>Description of argument...
  <ARGITEM>( ... )    <comment>(repeat for each argument)
  <ARGDEF>
<ENDARGDEFLIST>

<DESCRIPTION>        <comment>(Description of routine)
<ENDDescription>

<RSDEFLIST>          <comment>(Return status definition list)
<RSITEM>(status\meaning)
<RSITEM>(\\)         <comment>(Repeat for each possible status)
<ENDRSDEFLIST>

<EXAMPLES>[(EXAMPLE)] <comment>(Numbered examples)
<EXC> or <EXI>
<EXTTEXT>
<ENDEXAMPLES>

```

LIB\$BBCCI—Test and Clear Bit with Interlock

LIB\$BBCCI tests and clears a selected bit under memory interlock. LIB\$BBCCI makes the VAX BBCCI instruction available as a callable procedure.

FORMAT LIB\$BBCCI *position*, *base*

RETURNS VMS Usage: longword_unsigned
type: aligned bit string
access: write only
mechanism: by value

State of the bit before it was cleared by LIB\$BBCCI; 1 if the bit was previously set and 0 if the bit was previously clear.

ARGUMENTS *position*
VMS Usage: longword_signed
type: longword integer (signed)
access: read only
mechanism: by reference

Bit position, relative to *base*, of the bit which LIB\$BBCCI tests and clears. The *position* argument is the address of a signed longword integer containing the bit position. A position of zero denotes the low-order bit of the byte base. The bit position is equal to the offset of the bit chosen from the base position. This offset may span the entire range of a signed longword integer; negative offsets access bits in lower-addressed bytes.

base
VMS Usage: address
type: unspecified
access: read only
mechanism: by reference

Byte containing bit zero of the field that LIB\$BBCCI references. The *base* argument is the address of the base position. The bit that LIB\$BBCCI tests and clears is *position* bits offset from the low bit of *base*.

DESCRIPTION The single bit specified by *position* and *base* is tested, the previous state of the bit remembered, and the bit cleared. The reading of the state of the bit and its clearing are interlocked against similar operations by other processors or devices in the system. The remembered previous state of the bit is then returned as the function value of LIB\$BBCCI.

For more information, see the *VAX-11 Architecture Reference Manual*.

SDML

TEMPLATES

- **ENSURE FORMAT CONSISTENCY AMONG DOCUMENTS IN THE SAME FAMILY**
- **ENSURE THAT ALL REQUIRED/RELEVANT INFORMATION IS PRESENT**
- **SPECIFIC PIECES OF INFORMATION ARE IN KNOWN PLACES AND CAN BE EASILY EXTRACTED (E.G. HELP FILES, COMMAND SUMMARIES, QUICK REFERENCE GUIDES)**

TEXMAC

- READS SDML-CODED FILE
- LOOKS TAGS UP IN A "DEFINITION FILE"; REPLACES EACH TAG WITH FORMATTING COMMANDS. FOR EXAMPLE:

```
<DEFINE>(P:  
\paragraph)
```

- USING DIFFERENT DEFINITION FILES ENABLES US TO PRODUCE OUTPUT FOR DIFFERENT TEXT PROCESSING PROGRAMS. FOR EXAMPLE, A DSRPLUS DEFINITION FILE MIGHT CONTAIN:

```
<DEFINE>(P:  
.b;)
```

TEX

- **FORMATS INPUT TEXT INTO LINES, PARAGRAPHS, AND PAGES**
- **MACRO PACKAGE DEVELOPED FOR SOFTWARE DOCUMENTATION NEEDS**
- **FORMAT VARIES DEPENDING ON BOOK DESIGN (DOCTYPE), OUTPUT DEVICE**
- **PRODUCES OUTPUT FOR THESE DEVICES:**
 - **AUTOLOGIC MICRO5 TYPESETTER**
 - **LN01 LASER PRINTER**
 - **LINE PRINTER**
 - **VT100,VT200 TERMINALS**
 - **LN03 LASER PRINTER**

CMS/DOC

"LIBRARIAN" SYSTEM

- **SUBSET OF DEC/CMS**
- **WRITER PUTS SOURCE FILES INTO LIBRARY**
- **RESTRICTS ACCESS TO SOURCE FILES**
- **PREVENTS PARALLEL DEVELOPMENT OF SOURCE FILES**
- **TRACKS HISTORY OF DEVELOPMENT OF SOURCE FILES**

DOCUMENT: THE SOLUTION TO OUR PROBLEMS

FEATURES OF THE SYSTEM

- **HIGH-QUALITY OUTPUT**
- **FORMATTED DRAFT COPY AVAILABLE EARLY IN PRODUCTION CYCLE**
- **DISTRIBUTED MAINTENANCE OF FILES**
- **WRITERS SHIELDED FROM DETAILS OF FORMATTING**
- **FORMAT CONSISTENCY WITHIN AND ACROSS BOOKS**
- **ABILITY TO ADD NEW, SOPHISTICATED FORMATS**

DOCUMENT

FEATURES OF THE SYSTEM

- **SOFTWARE FOR TRACKING SOURCE FILES**
- **ENGLISH-LIKE, STRUCTURALLY ORIENTED TAGS**
- **SOURCE FILES ARE DEVICE INDEPENDENT**
- **SOURCE FILES ARE FORMAT INDEPENDENT**
- **ABILITY TO PROCESS COMPLEX TABLES AND EXAMPLES**

```

<doctype>(manual)
<define>(exam_chap\1)
<define>(list_chap\2)
<define>(typog_chap\3)
<define>(fig_chap\4)
<define>(note_chap\5)
<define>(numx_chap\6)
<define>(specials_chap\7)
<define>(pqdeflist_chap\8)
<define>(table_chap\9)
<define>(msg_apx\A)

<define>(ADMIN_GUIDE\Administrator's Guide)
<define>(SDML_PRIM\Getting Started with SDML)
<define>(SDML_UG\SDML User's Guide)

<chapter>(<note chap>\Notes and Footnotes)
<comment>*****
    Testing forms of the NOTE tag.
    *****<endcomment>

<P>This chapter illustrates the <tag>(NOTE), <tag>(NOTES),
and <tag>(FOOTNOTE) tags.
<include>(text.dat)
<Head1>(Vanilla Notes)
<P>The first note includes a list.
<note>The CROSS directive has these attributes:
<NLIST><LE>CROSS without a symbol list will not reenable the cross-reference
listing of a symbol specified in .NOCROSS with a symbol list.

<LE>If the cross-reference listing of all symbols is disabled, .CROSS
with a symbol list will have no effect until the cross-reference listing
is reenabled by .CROSS without a symbol list.
<ELS>
<ENDNOTE>
<include>(text.dat)
<P>A long note, with a table in it:

<note>
This is a branch instruction. The groups:
<nlist>
<le>Overflow and carry group
<twocolist>(5)
<twocol>(BVS\V EQL 1)
<twocol>(BVC\V EQL 0)
<twocol>(VCS\C EQL 1)
<ENDtwocolist>

<le>Unsigned group:
<twocolist>(7)
<twocol>(BLSSU\C EQL 1)
<twocol>(BLEQU\{C OR Z} EQL 1)
<endtwocolist>
<ELS>

<P>Here is an additional paragraph inside this note with more text.
<endnote>

```

5

Notes and Footnotes

This chapter illustrates the `<NOTE>`, `<NOTES>`, and `<FOOTNOTE>` tags.

Flashy designs are inappropriate for software manuals or for any serious or formal books because they do not reflect the intention of the writer. The purpose of any book design is to clarify what the author is conveying, to translate the text attractively as print on a page, to communicate the message visually in harmony with the ideas.

5.1 Vanilla Notes

The first note includes a list.

Note: The `CROSS` directive has these attributes:

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A long note, with a table in it:

Note: This is a branch instruction. The groups:

Chapter 5

Notes and Footnotes

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DOCUMENT

AUTOMATED FEATURES OF THE SYSTEM

- **PAGINATION**
- **SOPHISTICATED HYPHENATION**
- **KERNING, LIGATURES, MATH SYMBOLS**
- **INDEX AND TOC GENERATION**
- **RUNNING HEADS AND FOLIOS**
- **HEADING AND SECTION NUMBERING**
- **OUTLINE GENERATION**

DOCUMENT

PRESENT DEVELOPMENT PLANS

- **INTEGRATION OF TEXT AND GRAPHICS**
- **LSE INTERFACE**
- **PREVIEW TERMINAL**
- **ON-LINE DOCUMENTATION**