


```

CCCCCCCC LL      IIIIII MM      MM      AAAAAA CCCCCCCC
CCCCCCCC LL      IIIIII MM      MM      AAAAAA CCCCCCCC
CC        LL      II      MMMM  MMMM  AA      AA  CC
CC        LL      II      MMMM  MMMM  AA      AA  CC
CC        LL      II      MM   MM   AA      AA  CC
CC        LL      II      MM   MM   AA      AA  CC
CC        LL      II      MM   MM   AA      AA  CC
CC        LL      II      MM   MM   AAAAAAAAAA CC
CC        LL      II      MM   MM   AAAAAAAAAA CC
CC        LL      II      MM   MM   AA      AA  CC
CC        LL      II      MM   MM   AA      AA  CC
CCCCCCCC LLLLLLLLLL IIIIII MM      MM   AA      AA  CC
CCCCCCCC LLLLLLLLLL IIIIII MM      MM   AA      AA  CC

```

```

RRRRRRRR EEEEEEEEE EEEEEEEEE QQQQQQ
RRRRRRRR EEEEEEEEE EEEEEEEEE QQQQQQ
RR      RR EE      QQ      QQ
RR      RR EE      QQ      QQ
RR      RR EE      QQ      QQ
RRRRRRRR EEEEEEEEE QQQ      QQ
RRRRRRRR EEEEEEEEE QQQ      QQ
RR      RR EE      QQ      QQ
RR      RR EE      QQ      QQ
RR      RR EE      QQ      QQ
RR      RR EEEEEEEEE QQQQ   QQ
RR      RR EEEEEEEEE QQQQ   QQ

```

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....

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FUNCTIONAL DESCRIPTION:

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THIS REQUIRE FILE DEFINES THE BLISS MACROS TO BE USED BY A UTILITY
WHICH IMPLEMENTS A COMMAND OF THE VMS OPERATING SYSTEM. THE
MACROS ARE THOSE FOR DECLARING THE BLOCKS USED IN THE COMMUNICATION
BETWEEN THE UTILITY AND THE RESULT PARSER OF THE COMMAND
LANGUAGE INTERPRETER. THE NAMES AND CALLING SEQUENCES ARE AS DESCRIBED
IN VMS DOCUMENTATION.
--

```

```

CREATE A CLI REQUEST DESCRIPTOR BLOCK

```

```

KEYWORDMACRO
$CLIREQDESC(RQTYPE, BITNUM=0, RQFLGS,
             ERRACT=0, PRSACT=0, ABSACT=0,
             QUALST=0)=
BLOCK[CLISQ_REQDESC,BYTE]
INITIAL(
  BYTE(%NAME('CLISK_',RQTYPE)),
  BYTE(BITNUM),
  CLISBITFLD(BYTE,CLISV_,RQFLGS),
  BYTE(0),
  LONG(ERRACT),
  LONG(0,0),

  LONG(PRSACT),
  LONG(ABSACT),
  LONG(QUALST));
: REQUEST TYPE BYTE
: PARAMETER BIT NUMBER
: FLAGS BYTE
: STATUS BYTE
: ERROR ACTION ROUTINE
: PARAMETER QUADWORD
: STRING DESCRIPTOR
: PARAMETER PRESENT ACTION ROUTINE
: PARAMETER ABSENT ACTION ROUTINE
: QUALIFIER DESCRIPTOR LISTHEAD

```

```

CREATE A CLI PARAMETER QUALIFIER DESCRIPTOR

```

```

KEYWORDMACRO
$CLIQUALDESC(QDCODE, QDFLGS = , TRUACT = 0, FLSACT = 0, USRVAL,
             TSTLST, SETLST, CLRLST) =
BLOCK[CLISQUALSIZE(USRVAL,TSTLST,SETLST,CLRLST),BYTE]
ALIGN(0)
INITIAL (
  BYTE(CLISQUALSIZE(USRVAL,TSTLST,SETLST,CLRLST)),
  BYTE(CLISQUALNAME(QDCODE)),
  %IF %NULL(USRVAL)
    %THEN CLISBITFLD(BYTE,CLISV_,QDFLGS)
    %ELSE CLISBITFLD(BYTE,CLISV_,(QDUSRVAL,%REMOVE(QDFLGS))) %FI,
  BYTE(0),
  LONG(0,0),
  LONG(TRUACT),
  LONG(FLSACT),
  %IF %NULL(USRVAL) %THEN %ELSE LONG(USRVAL), %FI
  %IF %NULL(%REMOVE(TSTLST)) %THEN BYTE(0) %ELSE CLISBITLIST(%REMOVE(TSTLST))%FI,
  %IF %NULL(%REMOVE(SETLST)) %THEN BYTE(0) %ELSE CLISBITLIST(%REMOVE(SETLST))%FI,
  %IF %NULL(%REMOVE(CLRLST)) %THEN BYTE(0) %ELSE CLISBITLIST(%REMOVE(CLRLST))%FI);

```

```

:
: CREATE THE END OF A QUALIFIER LIST
MACRO
:
: $CLIQUALEND = BYTE ALIGN(0) INITIAL(0)%,
: DECLARE THE NAMES OF CLI QUALIFIER CODES
:
: $CLIQUALCODES(UTILNAME) =
:   %IF %DECLARED(%QUOTE %QUOTE CLISUTILQUALPRE)
:     %THEN UNDECLARE %QUOTE %QUOTE CLISUTILQUALPRE; %FI
:   MACRO CLISUTILQUALPRE =
:     %NAME('CLISK_',CLISTAKE4(UTILNAME),'_')%QUOTE%;
:     EXTERNAL LITERAL
:     CLISQUALNAME(%REMAINING)%,
:
: THE FOLLOWING IS A SET OF UTILITY MACROS FOR ALL THE ABOVE
:
: CLISBITS(A,B)[]=
:   CLISMASK(%NAME(A,B)) CLISOR(%REMAINING) CLISBITS(A,%REMAINING) %,
:
: CLISMASK(I,P,S,E)=
:   (1^((P)+(S)) - 1^(P)) %,
:
: CLISOR[]=
:   OR %,
:
: CLISBITFLD(ALLOC,PREFIX,VALUE)=
:   %IF %NULL(VALUE)
:     %THEN ALLOC(0)
:   %ELSE ALLOC(CLISBITS(PREFIX,%REMOVE(VALUE)))
:   %FI %,
:
: CLISLENGTH[ ] = %LENGTH %,
:
: CLISBITLIST[ ] = BYTE(%LENGTH,%REMAINING)%,
:
: CLISQUALSIZE(UVAL,TBLST,SBLST,CBLST) =
:   23 +
:     %IF %NULL(UVAL) %THEN 0 %ELSE 4 %FI +
:     %IF %NULL(%REMOVE(TBLST)) %THEN 0 %ELSE CLISLENGTH(%REMOVE(TBLST))%FI +
:     %IF %NULL(%REMOVE(SBLST)) %THEN 0 %ELSE CLISLENGTH(%REMOVE(SBLST))%FI +
:     %IF %NULL(%REMOVE(CBLST)) %THEN 0 %ELSE CLISLENGTH(%REMOVE(CBLST))%FI %,
:
: CLISTAKE4(SOMESTRING) = CLISJOIN4(%EXPLODE(SOMESTRING))%,
:
: CLISJOIN4(A,B,C,D) = %STRING(A,B,C,D)%,
:
: CLISQUALNAME[QUALNAME] =
:   %NAME(CLISUTILQUALPRE,CLISTAKE4(QUALNAME))%;

```

