

File created: 24-Sep-2023 14:11:25 {WMEDLEY}<sources>CMLCOMPILE.;2

edit by: rmk

changes to: (FNS COMPILE-IN-CORE)

previous date: 2-Jul-90 20:24:02 {WMEDLEY}<sources>CMLCOMPILE.;1

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

::
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(RPAQQ CMLCOMPILECOMS

```
[ (COMS (FUNCTIONS CL:DISASSEMBLE)
  (FNS FAKE-COMPILE-FILE INTERLISP-FORMAT-P INTERLISP-NLAMBDA-FUNCTION-P COMPILE-FILE-EXPRESSION
    COMPILE-FILE-WALK-FUNCTION ARGTYPE.STATE COMPILE.CHECK.ARGTYPE COMPILE.FILE.DEFINEQ
    COMPILE-FILE-SETF-SYMBOL-FUNCTION COMPILE-FILE-EX/IMPORT COMPILE.FILE.APPLY
    COMPILE.FILE.RESET COMPILE-IN-CORE)
  (FNS COMPILE-FILE-SCAN-FIRST)
  ; This function is support for AR#11185
  (VARS ARGTYPE.VARS)
  (PROP COMPILE-FILE-EXPRESSION DEFINEQ * SETF-SYMBOL-FUNCTION PRETTYCOMPRINT)
  (FUNCTIONS COMPILE-FILE-DECLARE%:))
[COMS (FNS NEWDEFC)
  (DECLARE%: DONTEVAL@LOAD DOCOPY (P (MOVD 'NEWDEFC 'DEFC)
  (PROP FILETYPE CMLCOMPILE)
  (DECLARE%: DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILERVERS (ADDVARS (NLAMA)
    (NLAML)
    (LAMA FAKE-COMPILE-FILE]))
```

```
(CL:DEFUN CL:DISASSEMBLE (NAME-OR-COMPILED-FUNCTION &KEY LEVEL-P (RADIX 8)
  (OUTPUT *STANDARD-OUTPUT*)
  FIRST-BYTE MARKED-PC)
  (PRINTCODE (if (CCODEP NAME-OR-COMPILED-FUNCTION)
    then NAME-OR-COMPILED-FUNCTION
    else (CL:COMPILE NIL (if (CL:SYMBOLP NAME-OR-COMPILED-FUNCTION)
      then (CL:SYMBOL-FUNCTION NAME-OR-COMPILED-FUNCTION)
      else NAME-OR-COMPILED-FUNCTION)))
  LEVEL-P RADIX OUTPUT FIRST-BYTE MARKED-PC))
```

(DEFINEQ

(FAKE-COMPILE-FILE

```
(CL:LAMBDA
  (FILENAME &KEY LAP REDEFINE OUTPUT-FILE (SAVE-EXPRS T)
  (COMPILER-OUTPUT T)
  (PROCESS-ENTIRE-FILE NIL PEFP))
  ; Edited 29-Jun-90 19:19 by nm
  (LET
    (COMPILE.FILE.AFTER VALUE COMPILE.FILE.VALUE (NLAML NLAML)
    (NLAMA NLAMA)
    (LAMS LAMS)
    (LAMA LAMA)
    (DFNFLG NIL))
    (DECLARE (CL:SPECIAL COMPILE.FILE.AFTER COMPILE.FILE.VALUE NLAML NLAMA LAMS LAMA DFNFLG))
    (RESETLST
      (RESETSAVE NIL (LIST 'RESETUNDO)
        (RESETUNDO))
      (RESETSAVE COUTFILE COMPILER-OUTPUT)
      (RESETSAVE STRF REDEFINE)
      (RESETSAVE SVFLG (AND SAVE-EXPRS REDEFINE 'DEFER))
      (RESETSAVE LAPFLG LAP)
      (LET ((*PACKAGE* *INTERLISP-PACKAGE*)
        (*READ-BASE* 10)
        (LOCALVARS SYSLOCALVARS)
        (SPECVARS T)
        STREAM LSTFIL ROOTNAME INTERLISP-FORMAT ENV FORM)
        (DECLARE (CL:SPECIAL *PACKAGE* *READ-BASE* LOCALVARS SPECVARS LSTFIL))
        [RESETSAVE NIL (LIST (FUNCTION CLOSE?)
          (SETQ STREAM (OPENSTREAM FILENAME 'INPUT)
        (CL:MULTIPLE-VALUE-SETQ (ENV FORM)
          (\PARSE-FILE-HEADER STREAM 'RETURN T))
        (SETQ INTERLISP-FORMAT (AND ENV (NEQ ENV *COMMON-LISP-READ-ENVIRONMENT*)))
        (if (NOT PEFP)
          then (SETQ PROCESS-ENTIRE-FILE INTERLISP-FORMAT))
        (if LAP
          then (SETQ LSTFIL COUTFILE))
        (SETQ FILENAME (FULLNAME STREAM))
        (RESETSAVE NIL (LIST (FUNCTION COMPILE.FILE.RESET)
          [SETQ OUTPUT-FILE (OPENSTREAM (OR OUTPUT-FILE (PACKFILENAME.STRING
            'VERSION NIL 'EXTENSION
```

COMPILE.EXT 'BODY FILENAME))

'OUTPUT
'NEW
' ((TYPE BINARY]

STREAM
(ROOTFILENAME FILENAME)))

(if OUTPUT-FILE
then (RESETSAVE LCFIL OUTPUT-FILE)
(PRINT-COMPILE-HEADER (LIST STREAM
' ("COMPILE-FILEd")
ENV))

(WITH-READER-ENVIRONMENT ENV
(PROG ((DEFERRED.EXPRESSIONS NIL)
(*PRINT-ARRAY* T)
(*PRINT-LEVEL* NIL)
(*PRINT-LENGTH* NIL)
(FIRSTFORMS NIL)
(AFTERS NIL)
(SCRATCH.LCOM '{CORE}SCRATCH.LCOM)
DUMMYFILE TEMPVAL)
(DECLARE (CL:SPECIAL DEFERRED.EXPRESSIONS *PRINT-ARRAY* *PRINT-LEVEL* *PRINT-LENGTH*
FIRSTFORMS AFTERS DEFERS))

; Edited by TT (11-June-90 : for AR#11185) all contents of file
; are read, and each forms are compiled.(This reading method is
; for supporting "FIRST", "NOTFIRST" tag.)

[RESETSAVE NIL (LIST (FUNCTION CLOSEF?)
(SETQ DUMMYFILE (OPENSTREAM SCRATCH.LCOM 'BOTH 'NEW]

LPDUMP
[if (EQUAL (CAR FORM)
'RPAQQ)

then ; This is the support method of "COMPILEVAR" (2-July-1990
; TT)

(SETQ TEMPVAL (CADDR FORM))
(if (SETQ TEMPVAL (ASSOC 'DECLARE%: TEMPVAL))
then (if (SETQ TEMPVAL (FMEMB 'COMPILEVAR (FMEMB 'DOEVAL@COMPILE TEMPVAL)))
then (SETQ DFNFLG T)
(if [SETQ TEMPVAL (FMEMB 'ADDVAR (SETQ TEMPVAL (CADR TEMPVAL))
then (CL:DOLIST (ARG (CDR TEMPVAL))
(APPLY 'ADDTOVAR ARG)]

(COMPILE-FILE-EXPRESSION FORM DUMMYFILE NIL PROCESS-ENTIRE-FILE)
(SKIPSEPCODES STREAM)
(if (EOPF STREAM)
then (CLOSEF STREAM)
(for FORM in FIRSTFORMS do **(COMPILE-FILE-EXPRESSION** FORM OUTPUT-FILE NIL
PROCESS-ENTIRE-FILE T))
(COPYBYTES DUMMYFILE OUTPUT-FILE 0 (GETFILEPTR DUMMYFILE))
(CLOSEF? DUMMYFILE)
(DELFILE (FULLNAME DUMMYFILE))
(AND PROCESS-ENTIRE-FILE (for EXP in (REVERSE DEFERRED.EXPRESSIONS)
do (APPLY* (CAR EXP)
(CDR EXP)
OUTPUT-FILE)))
(for FORM in AFTERS do **(COMPILE-FILE-EXPRESSION** FORM OUTPUT-FILE NIL
PROCESS-ENTIRE-FILE T))
(RETURN))

(SETQ FORM (READ STREAM))
(GO LPDUMP))

(PRINT NIL OUTPUT-FILE))
(SETQ COMPILE.FILE.VALUE (CLOSEF OUTPUT-FILE))) ; Do these after UNDONLSETQ entered

(MAPC (REVERSE COMPILE.FILE.AFTER)
(FUNCTION EVAL))
COMPILE.FILE.VALUE))

(INTERLISP-FORMAT-P

[LAMBDA (STREAM)
(SELCHARQ (PEEKCODE STREAM)
(; NIL)
((^F " (")
T)
NIL])

(* bvm%: " 3-Aug-86 14:01")

(INTERLISP-NLAMBDA-FUNCTION-P

[LAMBDA (X)
(AND (LITATOM X)
(FMEMB (ARGTYPE X)
'(1 3))
(NOT (CL:SPECIAL-FORM-P X]))

(* Imm " 7-May-86 20:12")

(COMPILE-FILE-EXPRESSION

[LAMBDA (FORM COMPILED.FILE COMPILE.TIME.TOO DEFER FORCE-OUTPUT-P)

; Edited 30-Jun-90 18:31 by nm

(DECLARE (CL:SPECIAL COMPILED.FILE))
(AND (LISTP FORM)
(SELECTQ (CAR FORM)

```

((DECLARE%: FILECREATED)
  (COMPILE-FILE-SCAN-FIRST FORM COMPILED.FILE NIL T COMPILE.TIME.TOO DEFER FORCE-OUTPUT-P))
((DEFMACRO)
  (LET* ((DEFINITION (REMOVE-COMMENTS FORM))
         (NAME (XCL::%%DEFINER-NAME 'DEFMACRO DEFINITION))
         (BODY (XCL::%%EXPAND-DEFINER 'DEFMACRO DEFINITION)))
        (CL:EVAL BODY)
        (COMPILE-FILE-EXPRESSION BODY COMPILED.FILE COMPILE.TIME.TOO DEFER FORCE-OUTPUT-P)))
((PROGN)
  (for X in (CDR FORM) do (COMPILE-FILE-EXPRESSION X COMPILED.FILE COMPILE.TIME.TOO DEFER
    FORCE-OUTPUT-P)))
((QUOTE)
  NIL)
((CL:COMPILER-LET)
  ; ignore top level quoted expression -i
  ; top level compiler-let. bind variables and recursively compile
  ; sub-expressions. This is here mainly for b PCL has top level
  ; compiler-lets
  [LET [(VARS (CL:MAPCAR #'(CL:LAMBDA (X)
    (if (CL:CONSP X)
      then (CAR X)
      else X))
    (CADR FORM))
    (VALS (CL:MAPCAR #'(CL:LAMBDA (X)
    (if (CL:CONSP X)
      then (CL:EVAL (CADR X))
      (CADR FORM)
    (CL:PROGV VARS VALS
    (CL:MAPC #'(CL:LAMBDA (X)
    (COMPILE-FILE-EXPRESSION X COMPILED.FILE COMPILE.TIME.TOO DEFER
    FORCE-OUTPUT-P))
    (CDDR FORM)))]])
  ((CL:EVAL-WHEN)
  [LET [[EVAL.SPECIFIED (OR (FMEMB 'EVAL (CADR FORM))
    (FMEMB 'CL:EVAL (CADR FORM))
  [LOAD.SPECIFIED (OR (FMEMB 'LOAD (CADR FORM))
    (FMEMB 'CL:LOAD (CADR FORM))
  (COMPILE.SPECIFIED (OR (FMEMB 'COMPILE (CADR FORM))
    (FMEMB 'CL:COMPILE (CADR FORM))
  (COND
    [(NOT LOAD.SPECIFIED)
    (COND
      ((OR COMPILE.SPECIFIED (AND COMPILE.TIME.TOO EVAL.SPECIFIED))
      (for INNER-FORM in (CDDR FORM) do (EVAL INNER-FORM)
      (T (for INNER-FORM in (CDDR FORM) do (COMPILE-FILE-EXPRESSION INNER-FORM COMPILED.FILE
        (OR COMPILE.SPECIFIED (AND COMPILE.TIME.TOO
        EVAL.SPECIFIED))
        DEFER FORCE-OUTPUT-P)]])
  ((CL:IN-PACKAGE)
  ; This is special because it has to be dumped to the output
  ; BEFORE the package changes
  (PRINT FORM COMPILED.FILE)
  (EVAL FORM))
  ((CL:MAKE-PACKAGE CL:SHADOW CL:SHADOWING-IMPORT EXPORT CL:UNEXPORT CL:USE-PACKAGE CL:UNUSE-PACKAGE
  IMPORT)
  ; This is Special also, because the compiling Environment Must
  ; be changed.(see CLtL, 11.7. Package System Functions and
  ; Variables) edited by TT(10-April-90)
  (PRINT FORM COMPILED.FILE)
  (EVAL FORM))
  ((CL:SETQ)
  ; Gasly kludge because cl:setq needs to run in the init before
  ; macroexpansion is enabled
  (COMPILE-FILE-EXPRESSION (EXPANDMACRO FORM T)
    COMPILED.FILE COMPILE.TIME.TOO DEFER FORCE-OUTPUT-P))
  (LET [(PROP (OR (GETPROP (CAR FORM)
    'COMPILE-FILE-EXPRESSION)
    (GETPROP (CAR FORM)
    'COMPILE.FILE.EXPRESSION]
  (if [AND (NOT PROP)
    (NOT (CL:SPECIAL-FORM-P (CAR FORM)))
    (NOT (INTERLISP-NLAMBDA-FUNCTION-P (CAR FORM)))
    (NEQ FORM (SETQ FORM (CL:MACROEXPAND-1 FORM)
  then (COMPILE-FILE-EXPRESSION FORM COMPILED.FILE COMPILE.TIME.TOO DEFER FORCE-OUTPUT-P)
  else (if COMPILE.TIME.TOO
    then (EVAL FORM))
    (if PROP
      then (COMPILE.FILE.APPLY PROP FORM DEFER FORCE-OUTPUT-P)
      elseif [NOT (EQUAL FORM (SETQ FORM (WALK-FORM FORM :WALK-FUNCTION
        (FUNCTION COMPILE-FILE-WALK-FUNCTION)
        then (COMPILE-FILE-EXPRESSION FORM COMPILED.FILE COMPILE.TIME.TOO DEFER
        FORCE-OUTPUT-P)
      else (COMPILE.FILE.APPLY (FUNCTION PRINT)
        FORM DEFER FORCE-OUTPUT-P)]])

```

(COMPILE-FILE-WALK-FUNCTION

```

[LAMBDA (FORM)
  (if (NLISTP FORM)
    then FORM
    else (CL:VALUES FORM (INTERLISP-NLAMBDA-FUNCTION-P (CAR FORM))
  (* lmm "26-Jun-86 17:25")

```



```

      ( (FIRST)
        (SETQ FIRST T)
        (SETQ NOTFIRST NIL))
      ; for First
      ( (NOTFIRST)
        (SETQ NOTFIRST T)
        (SETQ FIRST NIL)) ; for Not First
      ((COMPILE-ERVAR) (SETQ DEFN-FLG T))
      ; for Compile-ers
      (CL:OTHERWISE (CL:FORMAT COUTFILE "Warning: Ignoring unrecognized
        DECLARE: tag: ~S~%" (CAR TAIL))))
    else (COND
      ((EQ 'DECLARE%: (CAR (CAR TAIL)))
        (COMPILE-FILE-SCAN-FIRST (CAR TAIL)
          COMPILED.FILE FIRST DOCOPY EVAL@COMPILE DEFER))
      (T (CL:WHEN EVAL@COMPILE
        (EVAL (CAR TAIL)))
        (CL:WHEN DOCOPY
          (CL:IF FIRST
            (SETQ FIRSTFORMS (NCONC1 FIRSTFORMS (CAR TAIL)))
            (CL:IF NOTFIRST
              (SETQ AFTERS (NCONC1 AFTERS (CAR TAIL)))
              (COMPILE-FILE-EXPRESSION (CAR TAIL)
                COMPILED.FILE EVAL@COMPILE DEFER FORCE-OUTPUT-P))
          )))
    ))))
  ((FILECREATED)
    (if FORCE-OUTPUT-P
      then (PRINT FORM COMPILED.FILE)
      else (SETQ FIRSTFORMS (NCONC1 FIRSTFORMS FORM))))
  NIL])
)

```

:: This function is support for AR#11185

```

(RPAQQ ARGTYPE.VARS ((1 NLAML "NLAMBDA spread")
  (2 LAMA "LAMBDA nospread")
  (0 LAMS "LAMBDA spread")
  (3 NLAMA "NLAMBDA no-spread")))

```

```

(PUTPROPS DEFINEQ COMPILE-FILE-EXPRESSION COMPILE.FILE.DEFINEQ)

```

```

(PUTPROPS * COMPILE-FILE-EXPRESSION NIL)

```

```

(PUTPROPS SETF-SYMBOL-FUNCTION COMPILE-FILE-EXPRESSION COMPILE-FILE-SETF-SYMBOL-FUNCTION)

```

```

(PUTPROPS PRETTYCOMPRINT COMPILE-FILE-EXPRESSION NIL)

```

```

(CL:DEFUN COMPILE-FILE-DECLARE%: (FORM COMPILED.FILE EVAL@COMPILE DOCOPY DEFER)
  (CL:DO ((TAIL (CDR FORM)
    (CDR TAIL)))
    ((CL:ENDP TAIL))
    (CL:IF (CL:SYMBOLP (CAR TAIL))
      (CASE (CAR TAIL)
        ((EVAL@LOAD DOEVAL@LOAD DONTEVAL@LOAD) NIL)
        ((EVAL@LOADWHEN) (CL:POP TAIL))
        ((EVAL@COMPILE DOEVAL@COMPILE) (SETQ EVAL@COMPILE T))
        ((DONTEVAL@COMPILE) (SETQ EVAL@COMPILE NIL))
        ((EVAL@COMPILEWHEN) [SETQ EVAL@COMPILE (EVAL (CAR (SETQ TAIL (CDR TAIL))
          (COPY DOCOPY) (SETQ DOCOPY T))
          (DONTCOPY) (SETQ DOCOPY NIL))
          (COPYWHEN) [SETQ DOCOPY (EVAL (CAR (SETQ TAIL (CDR TAIL))
            (FIRST) )
            (NOTFIRST COMPILER-VARS) )
            (CL:OTHERWISE (CL:FORMAT COUTFILE "Warning: Ignoring unrecognized DECLARE: tag: ~S~%"
              (CAR TAIL))))))
      [COND
        ((EQ 'DECLARE%: (CAR (CAR TAIL)))
          (COMPILE-FILE-DECLARE%: (CAR TAIL)
            COMPILED.FILE EVAL@COMPILE DOCOPY DEFER))
        (T (CL:WHEN EVAL@COMPILE
          (EVAL (CAR TAIL)))
          (CL:WHEN DOCOPY
            (COMPILE-FILE-EXPRESSION (CAR TAIL)
              COMPILED.FILE EVAL@COMPILE DEFER))))))

```

```

(DEFINEQ

```

(NEWDEFC

```

  [LAMBDA (NM DF) (* bvm%: "30-Sep-86 23:12")
    [COND
      ((EQ SVFLG 'DEFER)
        (push COMPILE.FILE.AFTER (LIST (FUNCTION NEWDEFC)
          (KWOTE NM)
          (KWOTE DF)
          T)))

```

```

((OR (NULL DFNFLG)
      (EQ DFNFLG T))
 [COND
  ((GETD NM)
   (VIRGINFN NM T)
   (COND
    ((NULL DFNFLG)
     (CL:FORMAT *ERROR-OUTPUT* "~&(~S redefined)~%" NM)
     (SAVEDEF NM]
   (/PUTD NM DF T))
 (T ;; Save on CODE prop. Be nice and change it from archaic CCODEP object to modern compiled code object.
  (/PUTPROP NM 'CODE (if (ARRAYP DF)
                        then (create COMPILED-CLOSURE
                                     FNHEADER _ (fetch (ARRAYP BASE) of DF))
                        else DF]
 DF])

```

```

)
(DECLARE%: DONTEVAL@LOAD DOCOPY
(MOVD 'NEWDEFC 'DEFC)
)
(PUTPROPS CMLCOMPILE FILETYPE CL:COMPILE-FILE)
(DECLARE%: DONTEVAL@LOAD DOEVAL@COMPILE DONTCOPY COMPILERVARS
(ADDTOVAR NLAMA )
(ADDTOVAR NLAML )
(ADDTOVAR LAMA FAKE-COMPILE-FILE)
)
(PUTPROPS CMLCOMPILE COPYRIGHT ("Venue & Xerox Corporation" 1985 1986 1987 1990))

```

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