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changes to: (VARS COURIEREVALSERVECOMS)

previous date: 17-Sep-87 13:47:38 {MCS:MCS:STANFORD}<LANE>COURIEREVALSERVE.;5

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

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```
(RPAQQ COURIEREVALSERVECOMS ((* Client Routines)
                             (FNS REMOTEVAL REMOTEAPPLY)
                             (* Server Routines)
                             (FNS CES.REMOTEVAL CES.REMOTEAPPLY CES.ERRORN)
                             (COURIERPROGRAMS EVAL)
                             (FILES COURIERSERVE)
                             (P (COURIER.START.SERVER))))
```

(* * Client Routines)

(DEFINEQ

(**REMOTEVAL**

[LAMBDA (FORM COURIERSTREAM NOERRORFLG)

; Edited 17-Sep-87 13:12 by cdl
(* DECLARATIONS%:(RECORD RESULT
(REJECTTYPE ERRORTYPE ERRORSTRING)))

```
(LET (STRING STREAM RESULT)
      (DECLARE (SPECVARS STREAM STRING))
      (if [LISTP (SETQ STRING (COURIER.CALL COURIERSTREAM 'EVAL 'EVAL (MKSTRING FORM T)
                                         'RETURNERRORS])
          then [with RESULT STRING (if ERRORSTRING
                                       then [if (ZEROP (COURIER.FETCH (EVAL . ERRORN)
                                                                    NUMBER OF ERRORSTRING))
                                             then (OR NOERRORFLG (ERROR "Remote evaluation error!" FORM))
                                             else (OR NOERRORFLG (ERROR (ERRORMESS ERRORSTRING)
                                                                    (REJECTTYPE ERRORTYPE ERRORSTRING))
                                             else (OR NOERRORFLG (ERROR REJECTTYPE ERRORTYPE))
                                       ]
          ]
          [SETQ RESULT (RESETLST
                       [RESETSAVE NIL `(CLOSEF? ,(SETQ STREAM (OPENSTRINGSTREAM STRING 'INPUT)
                                                                (NLSETQ (READ STREAM))))]
                       then (CAR RESULT)
                       else (OR NOERRORFLG (ERROR "Unreadable remote evaluation result!" STRING])
```

(**REMOTEAPPLY**

[LAMBDA (FN ARGS COURIERSTREAM NOERRORFLG)

; Edited 17-Sep-87 13:14 by cdl
(* DECLARATIONS%:(RECORD RESULT
(REJECTTYPE ERRORTYPE ERRORSTRING)))

```
(LET (STRING STREAM RESULT)
      (DECLARE (SPECVARS STRING STREAM))
      (if [LISTP (SETQ STRING (COURIER.CALL COURIERSTREAM 'EVAL 'APPLY (MKSTRING FN T)
                                         (for ARG in ARGS collect (MKSTRING ARG T))
                                         'RETURNERRORS])
          then [with RESULT STRING (if ERRORSTRING
                                       then [if (ZEROP (COURIER.FETCH (EVAL . ERRORN)
                                                                    NUMBER OF ERRORSTRING))
                                             then (OR NOERRORFLG (ERROR "Remote apply error!"
                                                                    (CONS FN ARGS)))
                                             else (OR NOERRORFLG (ERROR (ERRORMESS ERRORSTRING)
                                                                    (REJECTTYPE ERRORTYPE ERRORSTRING))
                                       ]
          ]
          (if [SETQ RESULT (RESETLST
                          [RESETSAVE NIL `(CLOSEF? ,(SETQ STREAM (OPENSTRINGSTREAM STRING 'INPUT)
                                                                (NLSETQ (READ STREAM))))]
                          then (CAR RESULT)
                          else (OR NOERRORFLG (ERROR "Unreadable remote apply result!" STRING])
```

)

(* * Server Routines)

(DEFINEQ

(**CES.REMOTEVAL**

[LAMBDA (COURIERSTREAM PROGRAM PROCEDURE STRING)

; Edited 17-Sep-87 10:14 by cdl

```
(LET (STREAM SEXPR)
      (DECLARE (SPECVARS STREAM SEXPR))
      (if [SETQ SEXPR (RESETLST
                     [RESETSAVE NIL `(CLOSEF? ,(SETQ STREAM (OPENSTRINGSTREAM STRING 'INPUT)
                                                                (NLSETQ (READ STREAM))))]
          then (SETQ SEXPR (CAR SEXPR))
```

```

      (if (SETQ SEXPR (ERRORSET SEXPR))
          then `(RETURN , (MKSTRING (CAR SEXPR)
                                     T))
          else `(ABORT REMOTE.EVAL.ERROR , (CES.ERRORN])
      else `(ABORT REMOTE.READ.ERROR , (CES.ERRORN])

```

(CES.REMOTEAPPLY

; Edited 17-Sep-87 11:12 by cdl

```

[LAMBDA (COURIERSTREAM PROGRAM PROCEDURE FN ARGS)
  (DECLARE (SPECVARS FN ARGS))
  (LET (ERROR SEXPR STREAM)
    (DECLARE (SPECVARS STREAM))
    [SETQ ARGS (for ARG in ARGS declare%: (SPECVARS ARG)
                  collect [SETQ SEXPR (RESETLST
                                     [RESETSAVE NIL `(CLOSEF? , (SETQ STREAM (OPENSTRINGSTREAM
                                     ARG
                                     'INPUT]
                                     (NLSETQ (READ STREAM))))]
                    (if SEXPR
                        then (CAR SEXPR)
                        else (SETQ ERROR 'REMOTE.READ.ERROR)
                            (RETURN))
    (if ERROR
        then `(ABORT ,ERROR , (CES.ERRORN))
        else (if [SETQ FN (RESETLST
                    [RESETSAVE NIL `(CLOSEF? , (SETQ STREAM (OPENSTRINGSTREAM FN 'INPUT]
                    (NLSETQ (READ STREAM))))]
                then (SETQ FN (CAR FN))
                [if (SETQ SEXPR (NLSETQ (APPLY FN ARGS)))
                    then `(RETURN , (MKSTRING (CAR SEXPR)
                                               T))
                    else `(ABORT REMOTE.APPLY.ERROR , (CES.ERRORN])
                else `(ABORT REMOTE.READ.ERROR , (CES.ERRORN])

```

(CES.ERRORN

; Edited 17-Sep-87 13:41 by cdl

(* Minimal functionality, just for backward compatibility)

```

[LAMBDA NIL
  (COURIER.CREATE (EVAL . ERRORN)
    NUMBER _ (CONSTANT (ZERO))
    EXPR _ (CONSTANT null])
)

```

(COURIERPROGRAM EVAL (1105 0)

TYPES

```

[ (SEXPR STRING)
  (FN STRING)
  (ARGS (SEQUENCE SEXPR))
  (ERRORN (RECORD (NUMBER CARDINAL)
                  (EXPR SEXPR]

```

PROCEDURES

```

((EVAL 0 (SEXPR)
  RETURNS
  (SEXPR)
  REPORTS
  (REMOTE.EVAL.ERROR REMOTE.READ.ERROR)
  IMPLEMENTEDBY CES.REMOTEVAL)
(APPLY 1 (FN ARGS)
  RETURNS
  (SEXPR)
  REPORTS
  (REMOTE.APPLY.ERROR REMOTE.READ.ERROR)
  IMPLEMENTEDBY CES.REMOTEAPPLY))

```

ERRORS

```

((REMOTE.EVAL.ERROR 0 (ERRORN))
 (REMOTE.APPLY.ERROR 1 (ERRORN))
 (REMOTE.READ.ERROR 2 (ERRORN)))

```

(FILESLOAD COURIERSERVE)

(COURIER.START.SERVER)

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FUNCTION INDEX

CES.ERRORN2 CES.REMOTEAPPLY ...2 CES.REMOTEEVAL1 REMOTEAPPLY1 REMOTEEVAL1

COURIERPROGRAM INDEX

EVAL2
