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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))]
          elseif [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))]
            else (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
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COURIERPROGRAM INDEX

EVAL2
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