```
(RPAQQ TCPCONFIGCOMS
       ((PROP MAKEFILE-ENVIRONMENT TCPCONFIG)
        (DECLARE%: EVAL@COMPILE DONTCOPY (COMS (RECORDS IPINIT))
               (GLOBALVARS \IP.LOCAL.NETWORKS \IP.DEFAULT.GATEWAY \IP.INIT.FILE \IP.SUBNET.MASKS
                      \PROCESS.AFTEREXIT.EVENT \PROC.READY \AR.IP.TO.10MB.ALIST))
        (COMS (* TCP configuration module)
              (EXPORT (RECORDS IPINIT))
              (INITVARS (\IP.DEFAULT.CONFIGURATION (create IPINIT))
                     (\IPFLG NIL))
              (FILES TCPLLIP)
              (FNS TCP.CONFIGURE TCP.LIMITCHARS \TCPCONFIG.RESETFN \TCPCONFIG.QUITFN TCP.ALPHA.LIMITCHARS
                     \TCPCONFIG.APPLYFN))))

(PUTPROPS TCPCONFIG MAKEFILE-ENVIRONMENT (:PACKAGE "IL" :READTABLE "INTERLISP"))

(DECLARE%: EVAL@COMPILE DONTCOPY

(DECLARE%: EVAL@COMPILE

(RECORD IPINIT (LOCAL.ADDRESSES LOCAL.NETWORKS DEFAULT.GATEWAY HTE.FILE HOSTNAME SUBNETMASK DOMAIN.SERVERS
                      LOCAL.DOMAIN LOCAL.NSHOSTNUMBER))
)

(DECLARE%: DOEVAL@COMPILE DONTCOPY

(GLOBALVARS \IP.LOCAL.NETWORKS \IP.DEFAULT.GATEWAY \IP.INIT.FILE \IP.SUBNET.MASKS \PROCESS.AFTEREXIT.EVENT
       \PROC.READY \AR.IP.TO.10MB.ALIST)
)
)


           (* * TCP configuration module)
;; FOLLOWING DEFINITIONS EXPORTED

(DECLARE%: EVAL@COMPILE

(RECORD IPINIT (LOCAL.ADDRESSES LOCAL.NETWORKS DEFAULT.GATEWAY HTE.FILE HOSTNAME SUBNETMASK DOMAIN.SERVERS
                      LOCAL.DOMAIN LOCAL.NSHOSTNUMBER))
)

;; END EXPORTED DEFINITIONS

(RPAQ? \IP.DEFAULT.CONFIGURATION (create IPINIT))

(RPAQ? \IPFLG NIL)

(FILESLOAD TCPLLIP)

(DEFINEQ

(TCP.CONFIGURE
  [LAMBDA NIL
    (DECLARE (GLOBALVARS \IP.DEFAULT.CONFIGURATION))               ; Edited 18-Mar-88 15:41 by bvm
    (LET* ((CONFIG (OR (AND (INFILEP '{DSK}IP.INIT)
                            (\IP.READ.INIT.FILE '{DSK}IP.INIT))
                       \IP.DEFAULT.CONFIGURATION
                       (create IPINIT)))
           (TCP.FREEMENU (FREEMENU '((PROPS FONT (GACHA 12 BOLD))
                                     ((PROPS BOX 2)
                                      (LABEL " " TYPE DISPLAY)
                                      (LABEL "Apply!" TYPE MOMENTARY SELECTEDFN \TCPCONFIG.APPLYFN)
                                      (LABEL "     " TYPE DISPLAY)
                                      (LABEL "Reset!" TYPE MOMENTARY SELECTEDFN \TCPCONFIG.RESETFN)
                                      (LABEL "     " TYPE DISPLAY)
                                      (LABEL "Quit!" TYPE MOMENTARY SELECTEDFN \TCPCONFIG.QUITFN)
                                      (LABEL " " TYPE DISPLAY))
                                     ((LABEL "" TYPE DISPLAY))
                                     ((LABEL "    Host Name:" TYPE EDITSTART MESSAGE "Enter the name of this
                                             host" LINKS (EDIT HOST.NAME))
                                      (LABEL ,(OR (fetch (IPINIT HOSTNAME) of CONFIG)
```

```
                                                    "")
                                                   FONT
                                                   (GACHA 12)
                                                   TYPE EDIT ID HOST.NAME LIMITCHARS TCP.ALPHA.LIMITCHARS))
                                ((LABEL "   Host Address:" TYPE EDITSTART MESSAGE "Enter the IP address of
                                        this host. Format: 13.0.10.5" LINKS (EDIT ADDRESS))
                                  (LABEL ,(OR (CAR (fetch (IPINIT LOCAL.ADDRESSES) of CONFIG))
                                                    "")
                                                   FONT
                                                   (GACHA 12)
                                                   TYPE EDIT ID ADDRESS LIMITCHARS TCP.LIMITCHARS))
                                ((LABEL "Network Address:" TYPE EDITSTART MESSAGE "Enter the IP address of
                                        the local network.  Format: 13.0.0.0  Leave the host address fields
                                        0." LINKS (EDIT NETWORK.ADDRESS))
                                  (LABEL ,(OR (CAAR (fetch (IPINIT LOCAL.NETWORKS) of CONFIG))
                                                    "")
                                                   FONT
                                                   (GACHA 12)
                                                   TYPE EDIT ID NETWORK.ADDRESS LIMITCHARS TCP.LIMITCHARS))
                                ((LABEL "    Subnet mask:" TYPE EDITSTART MESSAGE "Enter the subnet mask.
                                        Format: 13.255.252.0  If the bitwise-AND of this address and any
                                        destination IP address is not equal to the bitwise-AND of this
                                        address and the host's local IP address, the destination IP address
                                        will be considered to be on another (sub)network" LINKS
                                        (EDIT SUBNET.MASK))
                                  (LABEL ,(OR (CAR (fetch (IPINIT SUBNETMASK) of CONFIG))
                                                    "")
                                                   FONT
                                                   (GACHA 12)
                                                   TYPE EDIT ID SUBNET.MASK LIMITCHARS TCP.LIMITCHARS))
                                ((LABEL "Default Gateway:" TYPE EDITSTART MESSAGE "Enter the IP address of
                                        the default gateway for this host.  Format 13.0.10.34" LINKS
                                        (EDIT DEFAULT.GATEWAY))
                                  (LABEL ,(OR (fetch (IPINIT DEFAULT.GATEWAY) of CONFIG)
                                                    "")
                                                   FONT
                                                   (GACHA 12)
                                                   TYPE EDIT ID DEFAULT.GATEWAY LIMITCHARS TCP.ALPHA.LIMITCHARS))
                                ((LABEL "    Local Domain:" TYPE EDITSTART MESSAGE "Enter the name of the
                                        Internet domain in which this host resides" LINKS (EDIT
                                                                                             LOCAL.DOMAIN
                                                                                             ))
                                  (LABEL ,(OR (fetch (IPINIT LOCAL.DOMAIN) of CONFIG)
                                                    "")
                                                   FONT
                                                   (GACHA 12)
                                                   TYPE EDIT ID LOCAL.DOMAIN LIMITCHARS TCP.ALPHA.LIMITCHARS))
                                ((LABEL " Domain servers:" TYPE EDITSTART MESSAGE "Enter the IP addresses
                                        of the local domain servers.  Format 13.0.10.21 12.0.15.22 ..."
                                        LINKS (EDIT DOMAIN.SERVERS))
                                  (LABEL ,(if (fetch (IPINIT DOMAIN.SERVERS) of CONFIG)
                                                   then (for ADDRESS in (fetch (IPINIT DOMAIN.SERVERS) of CONFIG)
                                                            bind (STRING _ "") do (SETQ STRING
                                                                                     (CONCAT STRING ADDRESS " "))
                                                            finally (RETURN (SUBSTRING STRING 1 -2)))
                                                   else "")
                                                   FONT
                                                   (GACHA 12)
                                                   TYPE EDIT ID DOMAIN.SERVERS LIMITCHARS TCP.ALPHA.LIMITCHARS))
                                ((LABEL " Hosts.txt file:" TYPE EDITSTART MESSAGE "Enter the name of the
                                        Hosts.txt file to be used for translating IP hostnames to IP host
                                        addresses." LINKS (EDIT HOSTS.FILE))
                                  (LABEL ,(OR (fetch (IPINIT HTE.FILE) of CONFIG)
                                                    "")
                                                   FONT
                                                   (GACHA 12)
                                                   TYPE EDIT ID HOSTS.FILE LIMITCHARS TCP.ALPHA.LIMITCHARS)))
                                        "TCP Configuration"))
              (REG (WINDOWPROP TCP.FREEMENU 'REGION))
              (WIDTH (fetch (REGION WIDTH) of REG))
              (HEIGHT (fetch (REGION HEIGHT) of REG)))
          (WINDOWPROP TCP.FREEMENU 'MINSIZE (CONS WIDTH HEIGHT))
          (WINDOWPROP TCP.FREEMENU 'MAXSIZE (CONS 65535 HEIGHT))
          (MOVEW TCP.FREEMENU (GETBOXPOSITION WIDTH HEIGHT))
          (OPENW TCP.FREEMENU)
          NIL])
```

(**TCP.LIMITCHARS**
```
  [LAMBDA (ITEM WINDOW CHARACTER)                                            ; Edited 20-Jan-88 15:37 by Snow

    ;; allows numbers or periods until a CR then skips to the next item in the menu.

    (COND
      ((FMEMB CHARACTER '(0 1 2 3 4 5 6 7 8 9 %.))
       T)
      ((EQ (CHARACTER (CHARCODE EOL))
           CHARACTER)
```

```
                (FM.SKIPNEXT WINDOW))
            (T NIL])
```

(**TCPCONFIG.RESETFN**
```
  [LAMBDA (ITEM WINDOW BUTTONS)                                              ; Edited 18-Jan-88 18:32 by Briggs
    (AND (GETPROMPTWINDOW WINDOW)
         (CLEARW (GETPROMPTWINDOW WINDOW)))
    (FM.RESETMENU WINDOW])
```

(**TCPCONFIG.QUITFN**
```
  [LAMBDA (ITEM WINDOW BUTTONS)                                              ; Edited 18-Jan-88 15:40 by Briggs
    (FM.ENDEDIT WINDOW)
    (CLOSEW WINDOW])
```

(**TCP.ALPHA.LIMITCHARS**
```
  [LAMBDA (ITEM WINDOW CHAR)                                                 ; Edited 20-Jan-88 15:32 by Snow
```
    ;; This function will allow all characters until a CR then call Fm.Skipnext to move on to the next entry in the table.

```
    (IF (EQ (CHARACTER (CHARCODE CR))
            CHAR)
        THEN (FM.SKIPNEXT WINDOW)
      ELSE T])
```

(**TCPCONFIG.APPLYFN**
```
  [LAMBDA (ITEM WINDOW BUTTONS)                                              ; Edited 18-Mar-88 18:37 by bvm
```
    ;; Before reseting any of the parameters, verify their validity

```
    (FM.ENDEDIT WINDOW)
    (PROG ((STATE (FM.GETSTATE WINDOW))
           (FMPROMPTWINDOW (GETPROMPTWINDOW WINDOW 3))
           (CONFIG (create IPINIT
                           LOCAL.NSHOSTNUMBER _ \MY.NSHOSTNUMBER))
           IPADDRESS SCRATCH)
```
    ;; Before reseting any of the parameters, verify their validity

```
          (CLEARW FMPROMPTWINDOW)
```
    ;; So we don't have to check later...

```
          (if (NOT (OR \10MBLOCALNDB \3MBLOCALNDB))
              then (printout FMPROMPTWINDOW "This machine doesn't appear to be on any networks!")
                   (RETURN))
```
    ;;
    ;; Host name is required
    ;;

```
          (SETQ SCRATCH (LISTGET STATE 'HOST.NAME))
          (if (STRING-EQUAL SCRATCH "")
              then (printout FMPROMPTWINDOW "Host name is required!")
                   (FM.EDITITEM (FM.GETITEM 'HOST.NAME NIL WINDOW)
                         WINDOW)
                   (RETURN))
          (replace (IPINIT HOSTNAME) of CONFIG with SCRATCH)
```
    ;;
    ;; Verify host address
    ;;

```
          (SETQ SCRATCH (LISTGET STATE 'ADDRESS))
          (if (STRING-EQUAL SCRATCH "")
              then (printout FMPROMPTWINDOW "Host address is required!")
                   (FM.EDITITEM (FM.GETITEM 'ADDRESS NIL WINDOW)
                         WINDOW)
                   (RETURN)
            elseif (OR (NULL (SETQ IPADDRESS (\IP.READ.STRING.ADDRESS SCRATCH)))
                       (ZEROP (\IPNETADDRESS IPADDRESS)))
              then (printout FMPROMPTWINDOW "Malformed host address: " SCRATCH)
                   (FM.EDITITEM (FM.GETITEM 'ADDRESS NIL WINDOW)
                         WINDOW)
                   (RETURN))
          (replace (IPINIT LOCAL.ADDRESSES) of CONFIG with (LIST (\IP.ADDRESS.TO.STRING IPADDRESS)))
```
    ;;
    ;; Verify network address. The list is an alist keyed by network address, and containing the atom 10 or 3 indicating the kind of network. We
    ;; assume the host is only on one network.
    ;;

```
          (SETQ SCRATCH (LISTGET STATE 'NETWORK.ADDRESS))
          (if (STRING-EQUAL SCRATCH "")
              then (printout FMPROMPTWINDOW "Network address is required!")
                   (FM.EDITITEM (FM.GETITEM 'NETWORK.ADDRESS NIL WINDOW)
                         WINDOW)
                   (RETURN)
```

```
          elseif (OR (NULL (SETQ IPADDRESS (\IP.READ.STRING.ADDRESS SCRATCH)))
                     (ZEROP (\IPNETADDRESS IPADDRESS)))
            then (printout FMPROMPTWINDOW "Malformed network address: " SCRATCH)
                 (FM.EDITITEM (FM.GETITEM 'NETWORK.ADDRESS NIL WINDOW)
                         WINDOW)
                 (RETURN))
          [replace (IPINIT LOCAL.NETWORKS) of CONFIG with (LIST (CONS (\IP.ADDRESS.TO.STRING IPADDRESS)
                                                                      (if \10MBLOCALNDB
                                                                          then 10
                                                                        else 3]
    ;;
    ;;  Verify subnet mask
    ;;
          (SETQ SCRATCH (LISTGET STATE 'SUBNET.MASK))
          (if (STRING-EQUAL SCRATCH "")
              then (printout FMPROMPTWINDOW "Subnet mask is required!")
                   (FM.EDITITEM (FM.GETITEM 'SUBNET.MASK NIL WINDOW)
                           WINDOW)
                   (RETURN)
            elseif (OR (NULL (SETQ IPADDRESS (\IP.READ.STRING.ADDRESS SCRATCH)))
                       (ZEROP (\IPNETADDRESS IPADDRESS)))
              then (printout FMPROMPTWINDOW "Malformed subnet mask: " SCRATCH)
                   (FM.EDITITEM (FM.GETITEM 'SUBNET.MASK NIL WINDOW)
                           WINDOW)
                   (RETURN))
          (replace (IPINIT SUBNETMASK) of CONFIG with (LIST (\IP.ADDRESS.TO.STRING IPADDRESS)))
    ;;
    ;; Verify default gateway, may be empty if none.
    ;;
          (SETQ SCRATCH (LISTGET STATE 'DEFAULT.GATEWAY))
          (if (STRING-EQUAL SCRATCH "")
              then (SETQ IPADDRESS NIL)
            elseif (NOT (SETQ IPADDRESS (\IP.READ.STRING.ADDRESS SCRATCH)))
              then (printout FMPROMPTWINDOW "Malformed default gateway address: " SCRATCH)
                   (FM.EDITITEM (FM.GETITEM 'DEFAULT.GATEWAY NIL WINDOW)
                           WINDOW)
                   (RETURN))
          (replace (IPINIT DEFAULT.GATEWAY) of CONFIG with (AND IPADDRESS (\IP.ADDRESS.TO.STRING IPADDRESS)))
    ;;
    ;; Local domain.  May be empty.
    ;;
          (SETQ SCRATCH (LISTGET STATE 'LOCAL.DOMAIN))
          (if (STRING-EQUAL SCRATCH "")
              then (SETQ SCRATCH NIL))
          (replace (IPINIT LOCAL.DOMAIN) of CONFIG with SCRATCH)
    ;;
    ;; Verify domain server address(es) are well formed.
    ;;
          (SETQ SCRATCH (LISTGET STATE 'DOMAIN.SERVERS))
          (if (STRING-EQUAL SCRATCH "")
              then (SETQ IPADDRESS NIL)
            else [SETQ IPADDRESS (bind (END _ 0)
                                       (BITTABLE _ (MAKEBITTABLE (LIST (CHARCODE SPACE))
                                                           T))
                                       (START _ NIL) eachtime [SETQ START (STRPOSL BITTABLE SCRATCH
                                                                                  (ADD1 (OR END 65534]
                                                                 (SETQ END (STRPOS " " SCRATCH START))
                                          until (NULL START) collect (\IP.READ.STRING.ADDRESS (SUBSTRING SCRATCH
                                                                                                    (OR START 1)
                                                                                                    END]
                 (if (FMEMB NIL IPADDRESS)
                     then (printout FMPROMPTWINDOW "Malformed domain server addresses: " SCRATCH)
                          (FM.EDITITEM (FM.GETITEM 'DOMAIN.SERVERS NIL WINDOW)
                                  WINDOW)
                          (RETURN)))
          [replace (IPINIT DOMAIN.SERVERS) of CONFIG with (AND IPADDRESS (for ADDR in IPADDRESS
                                                                            collect (\IP.ADDRESS.TO.STRING ADDR]
    ;;
    ;; Hosts.txt file (may not yet exist)
    ;;
          (SETQ SCRATCH (LISTGET STATE 'HOSTS.FILE))
          (if (if (NOT (STRING-EQUAL SCRATCH ""))
                  elseif (NOT *IP-DEFAULT-HOSTS-FILE*)
                    then                                            ; If there's a site default, we can leave this empty for flexibility
                         (FM.CHANGESTATE (FM.GETITEM 'HOSTS.FILE NIL WINDOW)
                               (SETQ SCRATCH "{DSK}HOSTS.TXT")
                               WINDOW)
```

```
                       T)
              then (replace (IPINIT HTE.FILE) of CONFIG with SCRATCH))
     ;;
     ;; write the information back on the IP.INIT file
     ;;
        (printout FMPROMPTWINDOW "Writing {dsk}ip.init... ")
        [LET ((*UPPER-CASE-FILE-NAMES* NIL))
           (CL:WITH-OPEN-FILE (STREAM '{DSK}IP.INIT :DIRECTION :OUTPUT :IF-EXISTS :NEW-VERSION)
                  (PRIN2 CONFIG STREAM (FIND-READTABLE "INTERLISP"]
        (printout FMPROMPTWINDOW "done.")
     ;;
     ;; See if they want to restart TCP with the new configuration.
     ;;
        (COND
           ((AND \IPFLG (MOUSECONFIRM "Restart TCP with the new values?" NIL FMPROMPTWINDOW T))
                                                     ; tcp is running and they want it restarted.
           (PRINTOUT FMPROMPTWINDOW T "Restarting...")
           (STOPIP)
           (SETQ \IP.DEFAULT.CONFIGURATION NIL)
           (\IPINIT)
           ;; let the user know we are done.
           (PRINTOUT FMPROMPTWINDOW "done."])
)

(PUTPROPS TCPCONFIG COPYRIGHT ("Venue & Xerox Corporation" 1985 1986 1987 1988 1990))
```

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