



# From VTAM to TCP/ip - using CSI's TCP/ip for VSE

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2003/04/25

## Overview

- **Why**
  - **Requirements**
  - **Steps**
  - **Pitfalls**
  - **Pratfalls**
- 
- We still use VTAM for LU6.2
  - We will not cover VM/TCP/ip

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## Why

- **PC connection expense**
  - Coax cost \$500-\$1000 per PC
  - Cat5 cost \$100 per PC
- **New functionality**
  - Automated file transfer capabilities
  - email
- **Wide printer support**
  - Flexible printing with PCL
  - Lower printer costs
- **Connectivity issues**
- **Cost savings in FEP/NCP removal**
- **“WAVV” of the future**

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## Requirements

- **Network Connection for the mainframe**
  - Channel attached device
  - Integrated network card(s)
- **VSE TCP/ip (CSI[, IBM] or BSI)**
- **TCP/ip network**
  - 10+ remote locations
  - network infrastructure with routers
  - ip address scheme

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# Steps

## ● 7206 Configuration

```
interface Channel1/0
ip address 192.168.0.1 255.255.255.0
no ip directed-broadcast
no keepalive
claw 0110 02 192.168.0.2 VSE NETTST TCPIP TCPIP
claw 0110 04 192.168.0.4 VSE NETTEL TCPIP TCPIP
claw 0120 06 192.168.0.6 VSE VSETST TCPIP TCPIP
claw 0130 08 192.168.0.8 VSE LINUX TCPIP TCPIP
interface Serial2/1
no ip address
no ip directed-broadcast
encapsulation frame-relay IETF
no fair-queue
frame-relay lmi-type ansi
!
interface Serial2/1.3 point-to-point
description 256k circuit to Butner
bandwidth 256
ip address 192.168.203.63 255.255.255.0
no ip directed-broadcast
frame-relay interface-dci 203 IETF
ip route 192.168.3.0 255.255.255.0 192.168.203.3
```

Continued from left  
interface FastEthernet0/0  
ip address 192.168.1.1 255.255.255.0  
no ip directed-broadcast  
ip accounting mac-address output

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# Steps (continued)

## ● IOCP definition

```
CHPID PATH=(04),SHARED,PARTITION=((VSEPRD,VSETST,LINUX)),TYPE=CNC
CNTLUNIT CUNUMBR=0400,PATH=(04),UNIT=SCTC,UNITADD=((00,32))
IODEVICE ADDRESS=(0E00,32),CUNUMBR=(0400),UNIT=SCTC,UNITADD=00
```

## ● VSE ADD statements

```
ADD E00:E05,CTCA,EML
```

## ● Startup JCL

```
* $$ JOB JNM=NETTEL00,CLASS=S,DISP=L,PRI=5,USER=00904
* $$ LST DISP=D,CLASS=L
* $$ PUN DISP=D,CLASS=A
// JOB NETTEL00
// OPTION SADUMP=5
// LIBDEF *,SEARCH=(PRD2.CONFIG,SOFT.PRODUCTS)
// SETPFIX LIMIT=200K
// SETPRT SYSLST,DFLT=Y
// EXEC IPNET,SIZE=IPNET,PARM='ID=00,INIT=IPINIT00',DSPACE=3M
/*
/*
* $$ EOJ
```

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## Steps (continued)

### ● IPINIT00 deck

```
SET IPADDR = 192.168.0.4
SET MASK = 255.255.255.000
SET MESSAGE INFORMATION = PRINTER
SET ALL_BOUND = 30000
SET WINDOW = 4096
SET TRANSFER_BUFFERS = 20
SET TELNETD_BUFFERS = 20
SET RETRANSMIT = 100
SET DISPATCH_TIME = 30
SET DYNAMIC_ROUTE = OFF
SET REDISPATC = 10
SET GATEWAY = OFF
SET CONNECT_SEQUENCE = ON
SET DNS1=192.168.1.5

WAIT VTAM

DEFINE LINK,ID=CISCOE04,TYPE=CLAW,DEV=E04,MTU=1500 -
  HOSTNAME=VSE,HOSTAPPL=TCPIP,WSNAME=NETTEL,WSAPPL=TCPIP
DEFINE NAME,NAME=NETTEL,IPADDR=192.168.0.4
DEFINE ROUTE,ID=ALL_NET,LINKID=CISCOE04, -
  IPADDR=0.0.0.0,GATEWAY=192.168.0.1
DEFINE MENU,ID=HCIMENU,MEMBER=HCIMENU
DEFINE TELNETD,ID=TN_HCI,TERMNAME=TNET1,COUNT=10,PORT=8500,POOL=YES, MENU=HCIMENU, -
  LOGMODE=SP3272QN,LOGMODE3=SP3272QN,LOGMODE4=SP3272QN,LOGMODE5=SP3272QN
* below is example of TN3270E definition supplied by Dave Clark of DAPSCO
DEFINE TELNETD,ID=TELN,TN3270E=L,PORT=4023
DEFINE TELNETD,ID=V01A,TN3270E=E,TERMNAME=TELV01A,TARGET=DBDCCICS, -
  LOGMODE=SP3272QN,LOGMODE3=SP3272QN, LOGMODE4=SP3272QN,LOGMODE5=SP3272QN
5/9/2003 INCLUDE NETWORK,DELAY
```

## Steps (continued)

### ● Terminal

- use CICS autoinstall with a custom DFHZATDX that selects terminal id from the last 4 bytes of the LU name
- use DEFINE TELNETD,TERMN=luname,IPADDR= to tie a terminal id to an IP address
- could use TN3270E to perhaps achieve the same result
- VTAM appls defined per terminal

```
TNET1 VBUILD TYPE=APPL
```

```
TNET101 APPL AUTH=(ACQ),EAS=1,MODETAB=IESINCLM,DLOGMOD=SP3272QN
```

### ● Printers in VTAMPrint

- specify the stack id and TCP/ip connection type
- define LPD or direct (raw) printers

```
PRINTER A001209,AUTO=YES,CHOICE=LINE,CLASS=B,ESC=JETD,MPP=255,
FCBD=FCB2885G,FF=YES,PRSUBSET=AA02,JSEP=(0 N),PROTOCOL=TCP,
TCPNTRL=1,TCPPRINT=F,TYPE=DIRECT,TCPPORTS=YES,TCRPORT=9100,
TCPSYSNM=192.168.1.209,TRANSLATE=NO PSTAEXIT=M4VATCPD OPT JS3 PT1
PRINTER A001201,AUTO=YES,CHOICE=LINE,CLASS=A,ESC=VIPP,MPP=255,
FCBD=FCB2885G,FF=YES,PRSUBSET=AA00,JSEP=(0 N),PROTOCOL=TCP,TYPE=LPD,
TCPNTRL=1,TCPPRINT=F,TCPPRTNM=DP65Release,TCPPORTS=YES,TCRPORT=515,
```

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# Steps (continued)

## ● TCP/IP customized menu

CATALOG HCIMENU.L

HI=#

LO=#

VAR=@

CMDLINE=?

INPUT=+

PF1=EXIT

CLEAR=EXIT

PF2=LOGMODE(S3270)

PF3=LOGMODE(D4B32783)

PF4=LOGMODE(D4B32784)

PF5=LOGMODE(D4B32785)

PF6=LOGMODE(SP3272QN)

PF10=LOGON APPL(CICSHDF1)

PF12=LOGON APPL(CICSDEVP)

PF21=LOGON APPL(DBDCICIS)

PF22=LOGON APPL(PHOENIX)

PF23=LOGON APPL(DCMTDRIV)

PF1=EXIT

MSGLINE=23

TRIES=3

Continued from left

IMAGE

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Telnet Menu

Luname:@LUNAME IP Addr:@IPADDR

Logmode: @LOGMODE #Enter PF key\$to change LOGMODE:

#PF 2\$- S3270 24 x 80 Model 2

#PF 3\$- D4B32783 32 x 80 Model 3

User ID: +USERID #PF 4\$- D4B32784 43 x 80 Model 4

Password: +PASSWORD #PF 5\$- D4B32785 27 x 132 Model 5

#PF 6\$- SP3272QN QUERIED MODEL

#Enter PF key\$to initiate logon:

#PF 21\$- ICCF

#PF 10\$- HDF CICS #PF 22\$- Phoenix

#PF 11\$- HCC CICS #PF 23\$- FAQS

#PF 12\$- Devp CICS

\$Press#PF1\$or#CLEAR\$to EXIT

/+

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# (transitional) Steps

## ● VTAM changes

CISCOE00 VBUILD TYPE=XCA

CISCO00 PORT

MEDIUM=RING,ADAPNO=0,SAPADDR=4,CUADDR=E00,TIMER=254

CISCOG00 GROUP

DIAL=YES,ANSWER=ON,CALL=INOUT,AUTOGEN=(25,L,P)

C072 VBUILD TYPE=SWNET

C0721 PU ADDR=C1,

IDBLK=017,

IDNUM=07201,

MAXDATA=265,

MAXOUT=7,

PACING=7,

PUTYPE=2,

ISTATUS=ACTIVE,

USSTAB=HIDUSSTR,

VPACING=20,

MODETAB=MT327XS

V060100 LU DLOGMOD=SNX3270X,ISTATUS=ACTIVE,LOGAPPL=CICSHID1,

LOCADDR=2

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## ● DLsw

### - 7206 configuration

```
source-bridge ring-group 100
dlsw local-peer peer-id 192.168.0.1
dlsw remote-peer 0 tcp 192.168.203.3
```

Under Channel configuration:

```
csna 0110 00
lan TokenRing 1
source-bridge 1 1 100
adapter 0 4000.3745.0001
```

### - remote 2610 config

```
source-bridge ring-group 100
dlsw local-peer peer-id 192.168.203.3
dlsw remote-peer 0 tcp 192.168.0.1
interface Serial1/1
no ip address
no ip directed-broadcast
encapsulation sdlc
no keepalive
no ignore-hw local-loopback
clockrate 128000
sdlc role primary
sdlc vmac 4000.0721.0000
sdlc address C1
sdlc xid C1 01707201
sdlc partner 4000.3745.0001 C1
sdlc dlsw C1
```

## Pitfalls

- **Broadcast floods**
- **Lack of “extravagant” diagnostic tools**
  - PING is great
  - TRACEROUTE/TRACERT
  - Network Monitor such as Ethereal
- **Route statements will get you everytime**

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## Pratfalls

- **Separate Telnet and FTP partitions**
- **Pool buffers for Telnet sessions by specifying  
DEFINE TELNETD, ..., POOL=YES**
- **Use EAS=1 on the LU appls to reduce VTAM  
buffer overhead**

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