

TCP/IP for VSE/ESA Potpourri

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Topics

- Product Maintenance Levels
- New functions with enhancements in 1.4, 1.5 and service packs
 - Email
 - Additional clients and daemons
 - Other Enhancements
- Recommendations

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Product Maintenance Levels

- IBM PTF distribution
 - PQ79563 (aka 1.5 Service Pack D)
 - PQ77237 (aka 1.5 Service Pack C)
 - In VSE/ESA 2.7.2 refresh
 - In 2.7.1 RSU and 2.6.3 RSU
 - PQ69970 (aka 1.5 Service Pack B)
 - In VSE/ESA 2.7.1 and 2.6.3 refresh
 - In VSE/ESA 2.7.0 and 2.6 PSP buckets
 - PQ71111 for update to VSE online messages
 - Update jobstream in IPNOME.Z



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Product Maintenance Levels

- Connectivity Systems Distribution
 - 1.5 Service Pack D on CSI website
 - Additional fixes available for each service pack on website
 - www.tcpip4vse.com/supp1.html
- Query Versions command
 - Displays TCPIP module levels
 - Updated in 1.5A to show fixes applied



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Email Enhancements

- New Email attachment options (1.4.B)
 - Text to PDF conversion
 - Invoked by SET command
 - SET PDF=ON
 - SET PDF=pdf_configuration_file (.L library member)
 - Print format control (font, orientation, etc.)
 - Also supported for LPR clients, FTP server and HTTP web server
 - Binary attachments
 - EXTTYPES.L file used to determine filetype



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Email...

- New Email attachment options (1.4.B)...
 - HTML support
 - File sent with HTML mime type if first 6 bytes of data begin with <html>
 - Multiple attachments
 - Can be different types with 1.4.D



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Email...

Email Client Attachment Example

```
// JOB EMAIL3
// EXEC CLIENT,SIZE=CLIENT,PARM='APPL=EMAIL'
SET HOST=MAILSERV
SET FROM=Class240
SET TO=jlawson@illustro.com
SET SUBJECT=Attached are some sample files
TEXT
Here are examples of multiple attachments and a PDF attachment.
/+
SET PDF=ON
ATTACH POWER.LST.A.PROGRAM.138 PROGRAM.PDF
SET PDF=OFF
ATTACH POWER.LST.A.DFHDMPA.139 AS DUMPI39.TXT
SEND
/*
/4
```



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Email...

- New Email Command (1.4.B)
 - Provides defaults for email client and email script SET commands
 - QUERY EMAIL to display current settings
 - Documentation added in 1.5.D service pack

	Default for
EMAIL SMTP=servername	SET HOST
FROM=useremail	SET FROM
USER=userid	SET USER
SUBJECT=string	SET SUBJECT
TRUNC=YES NO	SET TRUNCATE
TRANS=translatable	SET TRANSLATE
DEST=domain.name	SET TO for autoemail script
RPORT=nnnnn	SET RPORT
REPLYTO=replyemail	SET REPLYTO (1.4.D)
ATSIGN=hexvalue	code used for @ (1.4.C)



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Email...

- New Email Command Options (1.5.C)
 - TRANSLATION= (default translation table)
 - TRATT=table
 - Translation table for email attachments
 - TRMAIL=table
 - Translation table for email body section
- New current date and time variables
 - &NOWDATE, &NOWTIME
- SET option CHECKNAME=NO
 - Suppress validity checking of "to" address



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Email...

- New SET Options (1.4.B)
 - SET BCC synonym for SET BLIND
 - Distribution lists
 - SET TOLIST=list (list is .L library member)
 - SET COPYLIST=list
 - SET BCCLIST=list

```
CATALOG LIST1.L REPLACE=Y EOD=/+
"John"<jlawson@illustro.com>
"Robert"<rhedgpath@illustro.com>
/+
```



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Email...

- New SET Options (1.4.B)...
 - SET NEWNAME=name
 - Provides name for attachment in autoemail script
 - SET RPORT=portnumber
 - Port number for SMTP server
 - SET TRUNCATION=ON|OFF
 - Controls truncation of records with trailing blanks or nulls in attachments



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Email...

- New SET Options (1.4.B)...
 - Variable support for email clients
 - Same SETVAR parameters used in AutoFTP

```

CATALOG EMSSCRIPT.L      R=Y
SET HOST=192.168.155.98
SET FROM=Class240
SET TO=$POWUSER@illustro.com
SET SUBJECT=Attached is a printout from VSE/POWER
SETVAR &NAME=$PWRNAME + ".TXT"
SET NEWNAME=&NAME
/*
          
```



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Email...

- New SET Options (1.4.D)
 - SET VCARD=NO|YES|name
 - Virtual business card attachment
 - DEFAULT.VCF used if YES specified
 - Create on PC and FTP to VSE library as binary object
 - SET VALIDATE=ON|OFF
 - Removes binary bytes from text file attachments



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Email...

- New SET Options (1.4.D)...
 - SET PRIORITY=1-5|term
 - For email clients that show email priority
 - Term can be LOWEST, LOW, MEDIUM, HIGH, HIGHEST
 - SET NOTIFY=emailaddress
 - Email address to notify when recipient reads email
 - SET REPLYTO= and SET REPLYTOLIST=
 - Email address or email list for sending email reply



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Email...

- New SET Options (1.5.D)...
 - SET DISP=HOLD
 - Processed entries put in "hold", not "Y" status
 - SET DISP=FORCE|NOFORCE
 - Allows batch email client attachment of entry's with any disposition in addition to "K" and "D"
 - SET FROM with <> reinstated (dropped after 1.4)

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Other Clients and Daemons

- Discover Client
 - Determines optimum MTU size between VSE and each remote host
 - CICS, console, and batch
 - You must set MTU size to maximum before running this client
 - CICS transaction and VSE console:

DISCOVER [ipaddr|name]

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Other Clients and Daemons...

DISCOVER on VSE console

```

87 discover 192.168.155.107
Z1 0082 TCP9101 Client manager connection Established.
Z1 0082 TCP9151 DISCOVER
Z1 0082 TCP9101 DISCOVER Ready:
Z1 0082 TCP9151 SET HOST= 192.168.155.107
Z1 0082 TCP9101 192.168.155.107
Z1 0082 TCP9101 DISCOVER Ready:
Z1 0082 TCP9151 DISCOVER
Z1 0082 TCP9101 The best MTU discovered: 01480.
Z1 0082 TCP9101 DISCOVER Ready:
Z1 0082 TCP9151 QUIT
    
```

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Other Clients and Daemons...

- Traceroute Client
 - Reports each hop to the destination and time for each hop
 - CICS, console, and batch
 - CICS transaction and VSE console:

```
TRACERT [ipaddr|name]
```



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Other Clients and Daemons...

TRACERT on VSE console

```
87 tracert 206.171.236.253
Z1 0082 TCP910I Client manager connection Established.
Z1 0082 TCP915I TRACERT
Z1 0082 TCP910I TRACERT Ready:
Z1 0082 TCP910I TRACERT Ready:
Z1 0082 TCP915I SET HOST= 206.171.236.253
Z1 0082 TCP910I 206.171.236.253
Z1 0082 TCP910I TRACERT Ready:
Z1 0082 TCP915I TRACERT
Z1 0082 TCP910I Hop: 204.155.155.097 at milliseconds: 00196.
Z1 0082 TCP910I Hop: 198.175.015.026 at milliseconds: 00084.
Z1 0082 TCP910I Hop: 198.175.015.001 at milliseconds: 00082.
Z1 0082 TCP910I Hop: 063.237.096.033 at milliseconds: 00082.
Z1 0082 TCP910I Hop: 205.171.023.061 at milliseconds: 00089.
.
.
Z1 0082 TCP910I Hop: 216.070.140.234 at milliseconds: 00109.
Z1 0082 TCP910I Hop: 206.171.236.250 at milliseconds: 00132.
Z1 0082 TCP910I TRACERT was successful, milliseconds: 00155.
Z1 0082 TCP910I TRACERT Ready:
Z1 0082 TCP915I QUIT
```



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Other Clients and Daemons...

- Remote Execution Client (REXEC)
 - Issue command(s) to foreign TCP/IP hosts
 - Requires REXEC daemon on foreign hosts
 - Batch and CICS

```
// JOB REXEC
// EXEC CLIENT, PARM='APPL=REXEC, ID=00'
SET HOST=host_name
SET USER=name
SET PASS=password
COMMAND command
WAIT 300 (1.4.D)
COMMAND command
QUIT
/*
/ &
```



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Other Clients and Daemons...

- Remote Execution Client (REXEC)
 - New commands in 1.5.B
 - SET WARNMATCH.
 - If SETGOODMATCH, RC=0.
 - If SETWARNMATCH, RC=4.
 - If SETBADMATCH, RC=8.



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Other Clients and Daemons...

- External FTP Batch Daemon (1.4.B)
 - VSE TCP/IP File Server in batch partition
 - Can remove some/all DEFINE FTPD entries
 - FTP processing for remote FTP requests done in lower priority batch partition(s)

```

*$$ JOB JNM=FTPBATSR,DISP=K,CLASS=Z
// JOB FTPBATSR EXECUTE TCP/IP FTPBATCH SERVER
// LIBDEF *SEARCH=(TCP/IP.TCP140B,TCP/IP.TCP140)
// OPTION SYSPARM='00'
// EXEC FTPBATCH,SIZE=FTPBATCH.PARM=FTPDPOR=21'
/*
/ &
*$$ EOJ
          
```



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Other Clients and Daemons...

- External FTP Batch Daemon (1.4.D)
 - Supports file transfer to/from VSE dataspace
 - Dataspace size defined in 4K page multiples

```

*$$ JOB JNM=FTPBATSR,DISP=K,CLASS=Z
// JOB FTPBATSR EXECUTE TCP/IP FTPBATCH SERVER
// LIBDEF *SEARCH=(TCP/IP.TCP140D,TCP/IP.TCP140)
// OPTION SYSPARM='00'
// EXEC FTPBATCH,SIZE=FTPBATCH.PARM=FTPDPOR=3121'
DEFINE DSPACE RAW FTPDSPAC 2000
/*
/ &
*$$ EOJ
          
```



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Other Clients and Daemons...

External FTPBATCH using Dataspace

```
// JOB FTPJOB  EXAMPLE TCP/IP BATCH FILE TRANSFER JOB
// LIBDEF *,SEARCH=(TCP/IP.TCP140D,TCP/IP.TCP140)
// DLBL VSMFILE,'TEST.FTP.FILE',,VSM,CAT=USERCAT
// EXEC FTPBATCH,SIZE=FTPBATCH
* Step one - send file to VSE dataspace
LOPEN
  USER vseuser
  LPASS vsepass
  OPEN 192.155.152.173 3121
  USER vseuser
  PASS vsepass
  ASCII
  QUOTE TYPE I
  PUT VSMFILE,KSDS,F,80 %FTPDSPAC,DSPACE,RAW,TESTFILE
  CLOSE
  LCLOSE
*End of transfer
TIMEWAIT 3      wait a few seconds
```

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Other Clients and Daemons...

External FTPBATCH using Dataspace

```
* Step two - send file from dataspace to remote server
LOPEN 192.155.152.173 3121
  USER ntserver
  LPASS ntserver
  OPEN NTSERVER
  USER ntuser
  PASS ntpass
  BINARY
  PUT %FTPDSPAC,DSPACE,RAW,TESTFILE TESTFILE.TXT
  CLOSE
  LCLOSE
/*
/*
```

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Other Clients and Daemons...

- External FTP Batch Daemon (1.5.B)...
 - Support for EPIC controlled datasets
 - New parameter tells TCP/IP to obtain record size and block size from EPIC catalog

```
// JOB FTPJOB  EXAMPLE TCP/IP BATCH FILE TRANSFER JOB
// LIBDEF *,SEARCH=(TCP/IP.TCP140D,TCP/IP.TCP140)
// DLBL SAMFILE,'SAMFILE',,SD
// EXEC FTPBATCH,SIZE=FTPBATCH
LOPEN
  USER vseuser
  LPASS vsepass
  OPEN 192.155.152.173 3121
  USER vseuser
  PASS vsepass
  PUT %SAMFILE,SAM,EPIC
  CLOSE
  QUIT
```

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Other Clients and Daemons...

- SSL Support Enhancements (1.5.B)
 - External FTP Batch Daemon
 - New options on EXEC FTPBATCH PARM statement
 - SSL=SERVER
 - SSL=CLIENT
 - FTP Server
 - DEFINE FTPD SSL=YES|NO



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Other Clients and Daemons...

- WHOIS Client (1.4.D)

```

* $$ JOB JNM=WHOIS,DISP=D,CLASS=0
// JOB WHOIS EXECUTE TCPIP WHOIS CLIENT
// LIBDEF *,SEARCH=(TCPIP.TCP140D,TCPIP.TCP140)
// EXEC CLIENT,PARM='APPL=WHOIS'
WHOIS TCPIP4VSE.COM
QUIT
/*
/&
* $$ EOJ

```

 - Needs DNS server or name to resolve Internic address



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Other Enhancements

- New Hardware Support (1.5)
 - OSA Express
 - Hardware feature of G5, G6, zSeries 800 and 900 processors
 - Requires VSE/ESA 2.6 or 2.7
 - PCI Cryptographic Accelerator card on zSeries 800 and 900 processors
 - Improves performance of SSL
 - Requires VSE/ESA 2.7



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Other Enhancements

- New Hardware Support (1.5)
 - Hipersockets
 - Fast TCP/IP communication among LPARs and VM virtual machines
 - Requires VSE/ESA 2.7
 - Supported on z/Series 800 or 900 processor
 - Supported on MP3000, G5 and G6 processors as guest running under z/VM 4.2 or later



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Other Enhancements

- Redesigned DNS support (1.5)
 - Forward and reverse lookup
 - Multiple DNS servers
 - Additional record types and formats
- External and internal sockets mechanism improvements (1.5)
- New SET_TASKS initialization command (1.5.C)
 - Pre-allocates task control blocks
 - Helps reduce 24-bit storage fragmentation
 - QUERY STOR command to determine proper setting



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Other Enhancements

- Multi-threaded AutoLPR, AutoFTP and AutoEmail (1.4.B)
 - Concurrent event processing
 - Control parameters
 - SET MAX_EVENTS=5
 - maximum number of concurrent events
 - SET SINGLEDEST=ON|OFF
 - One or multiple outputs to one destination at a time
 - DEFINE EVENT RETRY count and RETRY_TIME apply to single event



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Other Enhancements...

- New Event Processing Options (1.5.C)
 - POWERSYSID
 - Support for POWER shared spool environment
 - PRIORITY=YES|NO
 - Uses POWER priority for scheduling events
 - ORDER=YES|NO
 - Files processed in order
 - SET MAX_EVENT replaced
 - SET MAX_LPR, SET MAX_EMAIL, SET MAX_FTP



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Other Enhancements...

- VSE FTP Server welcome message (1.4.C)
 - DEFINE FTPD,WELCOME=FTPHELLO
 - Welcome message defined in .L library member
 - Welcome text in columns 5 – 72
- KSDS file transfers by keyrange (1.4.D)
 - SITE LOWKEY specifies starting key
 - SITE HIGHKEY specifies ending key
 - Key values can be generic or full key



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Other Enhancements...

- VSE FTP Server translation control (1.5.A)
 - EXTYPES.L table
 - Controls translation based on filetypes defined in the table
 - New option on DEFINE FTPD
 - EXTYPES=NO
 - Suppresses use of EXTYPES.L table
 - FTP user is responsible for specifying correct binary or ascii translation for ftp session.



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Other Enhancements...

- Wait and retry options for FTPBATCH (1.4.D)
 - TIMEWAIT nnn
 - Waits nnn seconds
 - SET RETRY nnn ttt
 - Retries failed command nnn times every ttt seconds
- FTPBATCH diagnose support (1.4.D)
 - SET DIAGNOSE EVENTS in FTPBATCH job
- FTPBATCH supports FTP proxy servers (1.5.A)



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Other Enhancements...

- FTP client variable support (1.5.D)
 - Maximum number of SETVAR variables increased from 40 to 80
- Script file record length controls (1.5.D)
 - SET LASTCOL=72 (last column to process)
- LPR client form eject control (1.5.D)
 - ENDWITHEJECT (or SET ENDEJECT)=YES|NO
 - Generates additional formfeed if needed to ensure final page eject



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Other Enhancements...

- File I/O driver for BIM-Edit file (1.5.D)
- File I/O driver for Vollie (1.5.C)
 - Distributed "as is" (1.5.D)
- Change directory support for ICCF library (1.4.C)
 - Does not support directory list (DIR)

CD ICCF.LIBRARY.10

GET IPINIT00 IPINIT00.TXT



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Other Enhancements...

- CHECKTCP Utility
 - Checks if TCPIP partition is running

```

* $$ JOB JNM=CHECKTCP,DISP=D,CLASS=0
// JOB CHECKTCP
// EXEC CHECKTCP,PARM='SYSID=00,WAIT=N'
/*
/*
* $$ EOJ
    
```

```

BG 0000 // JOB CHECKTCP
          DATE 07/14/2000, CLOCK 11/11/22
BG 0000 CTCPO21 TCP/IP is currently active in Z1
BG 0000 EOJ CHECKTCP MAX.RETURN CODE=0000
          DATE 07/14/2000, CLOCK 11/11/23, DURATION 00/00/00
    
```

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Other Enhancements...

- Startup and shutdown improvements
 - SET SETTLE_TIME (1.5D)
 - User defined startup delay before initiating network traffic (was 30 second internal setting)
 - Default 1500 (5 seconds)
 - Faster shutdown (1.5.D)
 - Overlapped processing during shutdown stages
 - SHUTDOWN IMMEDIATE or SHUT I command
 - CONNECT_STATS=OFF|ON
 - Option to print connection statistics at shutdown

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Other Enhancements...

- DIAGNOSE (1.4.D)
 - TIMEWAIT nnn
 - Waits nnn seconds
 - SET RETRY nnn ttt
 - Retries failed command nnn times every ttt seconds
- FTPBATCH diagnose support (1.4.D)
 - SET DIAGNOSE EVENTS in FTPBATCH job
- LPR Client DUMPVAR command (1.5.D)
 - Displays currently defined variables

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Other Enhancements...

- **DIAGNOSE AUTOMATION (1.5.A)**
 - Event diagnose support
 - Diagnostic information on event processing
- **DIAGNOSE SSL (1.5.A)**
 - Diagnostic information for SSL
- **DIAGNOSE FTPD (1.5.B)**
 - Diagnostic information for FTP Server



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Other Enhancements...

- **DIAGNOSE output control (1.5.A)**
 - SET DIAGNOSE=NOCONSOLE
 - Diagnose output to SYSLSST only
 - SET DIAGNOSE=CONSOLE
 - Diagnose output to VSE console and SYSLSST
- **QUERY DIAGNOSE (1.5.A)**
 - Displays current DIAGNOSE settings
- **QUERY FRAGMENT (1.5.C)**
 - Displays statistics for tuning datagram fragmentation



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Other Enhancements...

- **DEFINE TELNETD BUFFERSIZE (1.5.D)**
 - User defined I/O buffer for TN3270 session
 - Up to 255 x 128, requires POOL=NO
- **GPSD MODE=EBCDIC option**
 - Transmits LPR output from GPS in EBCDIC
- **Command time values can be seconds or minutes (1.5.A)**

Example

RETRY=18000

(1/300 sec)

RETRY=60S

(seconds)

RETRY=1M

(minutes)



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Other Enhancements...

- DEFINE HTTPD LIMIT=value (1.5.B)
 - Limits maximum number of HTTP sessions
 - Controls using too much GETVIS for HTTP functions
 - Storage use decreased by 64K (1.5.D)
- Support for DATA parameter on MSG command (1.5.B)
 - MSG xx, DATA='tcip command'
 - Requires SET CONSOLE_HOLD=OFF



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Recommendations...

- Run in partition with 31-bit GETVIS
 - More 31-bit exploitation in 1.4 and later
 - 20 MB +
 - Use GETVIS partid,ALL to check VS usage
- Partition priorities w/Telnet (hi to low)
 - POWER, VTAM, TCP/IP, CICS(s), batch
 - Use FTPBATCH for host-initiated FTP or as host FTP server



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WAVV/2004-47

Recommendations...

- Update TCPAPPL definitions
 - TN3270 and GPS VTAM APPL definitions
 - Code EAS=1 and SESSLIM on APPL entries or in GROUP entry
 - Saves VTAM buffer storage
 - TCPAPPL.B shipped with 1.5.A has been updated



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Recommendations...

- Don't let TCP/IP partition see more network traffic than it needs to
 - Specify VSE's IP address in OSA and 3172 configurations
 - Filter non-IP traffic if the network attachment supports the option
 - Isolate VSE on its own LAN segment


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Recommendations...

- SET GATEWAY=OFF if possible
 - Saves unnecessary scan of routing table
- Use POOL=NO on TELNET definitions
 - Costs more 31-bit partition GETVIS
- Use FTPBATCH for VSE batch FTP clients
 - Moves file I/O and FTP processing to lower priority batch partition


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Recommendations...

- For debugging use the DIAGNOSE command
 - Particularly useful for diagnosing LPR, AFTP, and AutoEmail problems

DIAGNOSE {OFF|LPR|802.3|802.5|STALL|AFTP|SAM|
 FTP|FTPD|FILEIO|STORAGE|RESET|DNC|HTTP|
 FDDI|PERFORM|POWER|ROUTING|SWS|CONT|
 CAFTP|CLOSE|EMAIL|AUTOMATION}

- SET DIAGNOSE=value also accepted


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Recommendations...

TCP/IP Statistics

```

91 q statistics
Z1 0089 IPN516I (( TCP/IP Operational Statistics ))
Z1 0089 IPN516I FTP Daemons           = 5
Z1 0089 IPN516I - Current Active       = 0
Z1 0089 IPN516I - Maximum Active       = 1
Z1 0089 IPN516I - Current Buffers      = 0
Z1 0089 IPN516I - Maximum Active Buffers = 1
Z1 0089 IPN516I Telnet Daemons         = 10
Z1 0089 IPN516I - Current Active       = 3
Z1 0089 IPN516I - Maximum Active       = 4
Z1 0089 IPN516I - Current Buffers      = 0
Z1 0089 IPN516I - Maximum Active Buffers = 0
Z1 0089 IPN516I LP Daemons             = 5
Z1 0089 IPN516I HTTP Daemons           = 2

```


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Recommendations...

TCP/IP Statistics...

```

Z1 0089 IPN516I Gopher Daemons       = 0
Z1 0089 IPN516I FTP Sessions           = 5
Z1 0089 IPN516I Telnet Sessions        = 3
Z1 0089 IPN516I LPR Requests           = 0
Z1 0089 IPN516I HTTP Requests          = 0
Z1 0089 IPN516I Gopher Requests        = 0
Z1 0089 IPN516I TCP Inbound Rejections = 29
Z1 0089 IPN516I FTP Files Sent         = 3
Z1 0089 IPN516I FTP Files Received     = 0
Z1 0089 IPN516I FTP File Bytes Sent    = 43296
Z1 0089 IPN516I FTP File Bytes Received = 0
Z1 0089 IPN516I Telnet Bytes Sent      = 1899256
Z1 0089 IPN516I Telnet Bytes Received  = 29911
Z1 0089 IPN516I TCP Bytes Sent         = 2467631

```


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Recommendations...

TCP/IP Statistics...

```

Z1 0089 IPN516I TCP Bytes Received     = 31820
Z1 0089 IPN516I UDP Bytes Sent          = 0
Z1 0089 IPN516I UDP Bytes Received     = 0
Z1 0089 IPN516I IP Bytes Sent           = 2786082
Z1 0089 IPN516I IP Bytes Received      = 298376
Z1 0089 IPN516I Storage Cushion Releases = 0
Z1 0089 IPN516I Received Blocks        = 0
Z1 0089 IPN516I - Inbound Datagrams     = 0
Z1 0089 IPN516I - Non-IP                = 0
Z1 0089 IPN516I - Miss Routed IP        = 29
Z1 0089 IPN516I - Arps                  = 0
Z1 0089 IPN516I - Arp Requests          = 0
Z1 0089 IPN516I Transmitted Blocks     = 0
Z1 0089 IPN516I - Outbound Datagrams    = 0
Z1 0089 IPN516I - Arp Requests          = 0
Z1 0089 IPN516I - Arp Replies           = 0

```


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Recommendations...

- Key statistics to look at
 - Maximum active buffers vs. allocated
 - FTP and Telnet
 - Non-IP and Miss-routed-IP datagrams
 - Set filtering on in adapter (if available)
 - ARPS/ARP requests
 - ARP_TIME set too low
 - Only if ARPDELETE ON active (default is OFF)
 - Malfunctioning workstation/server on LAN
 - Use QUERY ARPS command to see who it is



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Recommendations...

- Remove from IPINIT all SET commands for time values
 - Product defaults have been updated
- Use QUERY SET command to see exactly which options you are running with
 - QUERY OPTIONS is identical



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Recommendations...

QUERY SET Output

```

q set
0085 IPN451I (( TCP/IP Set Information ))
0085 IPN452I System ID: 00
0085 IPN453I IP Address: 204.155.155.115 Submask: 255.255.255.224
0085 IPN454I All Bound Time: 30000 Link Retry Time: 18000
0085 IPN455I Redispatch Time: 10 Dispatch Time: 30
0085 IPN456I Retransmit Time: 100 Window: 4096
0085 IPN457I Transfer Buffers: 20 Maximum Buffers: 4
0085 IPN518I Receive MSS: 32684
0085 IPN458I Console Hold: OFF Debug: OFF Record: OFF
0085 IPN459I Gateway: OFF Isolation: OFF Security: ON
0085 IPN804I Telnet translation will use System Default
0085 IPN806I Checksum: Software Connect Sequence: OFF
0085 IPN806I Downcheck: OFF Dynamic Route: ON
0085 IPN806I Fixed Retransmit: OFF Full CETI: ON
0085 IPN806I Full Critical: OFF Local DLBL: ON
          
```



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Recommendations...

QUERY SET Output

```

0085 IPN806I Match_Message: ON Ping_Message: ON
0085 IPN806I Reuse: ON Security_ARP: OFF
0085 IPN806I Security_IP: OFF Separator_Pages: OFF
0085 IPN806I SDOpen_Extra: OFF Spincheck: ON
0085 IPN806I Sockcheck: ON Upcase: OFF
0085 IPN806I Traffic: ON
0085 IPN806I ARPdelete: OFF ARP_Time: 90000
0085 IPN806I Auto_time: 9000 Pulse_Time: 18000
0085 IPN806I Console_Port: 0
0085 IPN806I Additional_Window: 100 Reuse_Size: 10
0085 IPN806I Window_Restart: 10 Window_Depth: 30
0085 IPN806I Slow_Start: 10 Slow_Restart: 10
0085 IPN806I Slow_Increment: 1
0085 IPN806I Default_Domain:
0085 IPN806I Close_Connection_Depth: 10 Separator_Page_Count: 0
0085 IPN806I FTPBATCH_Fetch: off
0085 IPN806I Subtask_OPEN: off
    
```

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Information Sources

- Manuals
 - Product documentation
 - VSE/ESA CD collection kit
 - On IBM VSE website or CSI website
www-1.ibm.com/servers/eserver/zseries/os/vse/support/tcpip/tcphome.htm
www.tcpip4vse.com/doc1.html
 - TCP/IP for VSE/ESA IBM Program Setup and Supplement manual updated for 1.5
 - TCP/IP redbook SG24-5626 `Getting Started with TCP/IP for VSE/ESA 1.4`
 - Other redbooks on IBM VSE website
- Education
 - TCP/IP for VSE/ESA Under the Covers class (A3750)
 - www.illustro.com/education.htm

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