```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     2 ************************************************************************
                                                     3 *
                                                     4 *        Zvector E6 instruction tests for VRX encoded:
                                                     5 *
                                                     6 *        E609 VSTEBRH - VECTOR STORE BYTE REVERSED ELEMENT (16)
                                                     7 *        E60A VSTEBRG - VECTOR STORE BYTE REVERSED ELEMENT (64)
                                                     8 *        E60B VSTEBRF - VECTOR STORE BYTE REVERSED ELEMENT (32)
                                                     9 *        E60E VSTBR   - VECTOR STORE BYTE REVERSED ELEMENTS
                                                    10 *        E60F VSTER   - VECTOR STORE ELEMENTS REVERSED
                                                    11 *
                                                    12 *        James Wekel June 2024
                                                    13 ************************************************************************


                                                    15 ************************************************************************
                                                    16 *
                                                    17 *        basic instruction tests
                                                    18 *
                                                    19 ************************************************************************
                                                    20 *  This program tests proper functioning of the z/arch E6 VRX vector
                                                    21 *  store instructions. Exceptions are not tested.
                                                    22 *
                                                    23 *  PLEASE NOTE that the tests are very SIMPLE TESTS designed to catch
                                                    24 *  obvious coding errors.  None of the tests are thorough.  They are
                                                    25 *  NOT designed to test all aspects of any of the instructions.
                                                    26 *
                                                    27 ************************************************************************
                                                    28 *
                                                    29 *    *Testcase VECTOR E6 VRX store instructions
                                                    30 *    *
                                                    31 *    *   Zvector E6 instruction tests for VRX encoded:
                                                    32 *    *
                                                    33 *    *   E609 VSTEBRH - VECTOR STORE BYTE REVERSED ELEMENT (16)
                                                    34 *    *   E60A VSTEBRG - VECTOR STORE BYTE REVERSED ELEMENT (64)
                                                    35 *    *   E60B VSTEBRF - VECTOR STORE BYTE REVERSED ELEMENT (32)
                                                    36 *    *   E60E VSTBR   - VECTOR STORE BYTE REVERSED ELEMENTS
                                                    37 *    *   E60F VSTER   - VECTOR STORE ELEMENTS REVERSED
                                                    38 *    *
                                                    39 *    *   # ---------------------------------------------------------
                                                    40 *    *   #  This tests only the basic function of the instruction.
                                                    41 *    *   #  Exceptions are NOT tested.
                                                    42 *    *   # ---------------------------------------------------------
                                                    43 *    *
                                                    44 *    mainsize    2
                                                    45 *    numcpu      1
                                                    46 *    sysclear
                                                    47 *    archlvl     z/Arch
                                                    48 *
                                                    49 *    loadcore    "$(testpath)/zvector-e6-02-stores.core" 0x0
                                                    50 *
                                                    51 *    diag8cmd    enable    # (needed for messages to Hercules console)
                                                    52 *    runtest     2
                                                    53 *    diag8cmd    disable   # (reset back to default)
                                                    54 *
                                                    55 *    *Done
                                                    56 *
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT
                                                      57 ********************************************************************************
```

```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    59 ************************************************************************
                                                    60 *        FCHECK Macro - Is a Facility Bit set?
                                                    61 *
                                                    62 *        If the facility bit is NOT set, an message is issued and
                                                    63 *        the test is skipped.
                                                    64 *
                                                    65 *        Fcheck uses R0, R1 and R2
                                                    66 *
                                                    67 * eg.    FCHECK 134,'vector-packed-decimal'
                                                    68 ************************************************************************
                                                    69          MACRO
                                                    70          FCHECK &BITNO,&NOTSETMSG
                                                    71 .*                      &BITNO : facility bit number to check
                                                    72 .*                      &NOTSETMSG : 'facility name'
                                                    73          LCLA  &FBBYTE           Facility bit in Byte
                                                    74          LCLA  &FBBIT            Facility bit within Byte
                                                    75
                                                    76          LCLA  &L(8)
                                                    77 &L(1)    SetA  128,64,32,16,8,4,2,1  bit positions within byte
                                                    78
                                                    79 &FBBYTE  SETA  &BITNO/8
                                                    80 &FBBIT   SETA  &L((&BITNO-(&FBBYTE*8))+1)
                                                    81 .*       MNOTE 0,'checking Bit=&BITNO: FBBYTE=&FBBYTE, FBBIT=&FBBIT'
                                                    82
                                                    83          B     X&SYSNDX
                                                    84 *                                       Fcheck data area
                                                    85 *                                       skip messgae
                                                    86 SKT&SYSNDX DC  C'          Skipping tests: '
                                                    87          DC    C&NOTSETMSG
                                                    88          DC    C' facility (bit &BITNO) is not installed.'
                                                    89 SKL&SYSNDX EQU *-SKT&SYSNDX
                                                    90 *                                       facility bits
                                                    91          DS    FD                       gap
                                                    92 FB&SYSNDX DS   4FD
                                                    93          DS    FD                       gap
                                                    94 *
                                                    95 X&SYSNDX EQU *
                                                    96          LA    R0,((X&SYSNDX-FB&SYSNDX)/8)-1
                                                    97          STFLE FB&SYSNDX                get facility bits
                                                    98
                                                    99          XGR   R0,R0
                                                   100          IC    R0,FB&SYSNDX+&FBBYTE     get fbit byte
                                                   101          N     R0,=F'&FBBIT'            is bit set?
                                                   102          BNZ   XC&SYSNDX
                                                   103 *
                                                   104 * facility bit not set, issue message and exit
                                                   105 *
                                                   106          LA    R0,SKL&SYSNDX            message length
                                                   107          LA    R1,SKT&SYSNDX            message address
                                                   108          BAL   R2,MSG
                                                   109
                                                   110          B     EOJ
                                                   111 XC&SYSNDX EQU *
                                                   112          MEND
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    114 ********************************************************************************
                                                    115 *        Low core PSWs
                                                    116 ********************************************************************************


                             00000000  00001533    118 ZVE6TST  START 0
00000000                     00000000                119          USING ZVE6TST,R0            Low core addressability
                                                     120
                             00000140  00000000    121 SVOLDPSW EQU   ZVE6TST+X'140'        z/Arch Supervisor call old PSW


00000000                     00000000  000001A0    123          ORG   ZVE6TST+X'1A0'        z/Architecure RESTART PSW
000001A0  00000001 80000000                         124          DC    X'0000000180000000'
000001A8  00000000 00000200                         125          DC    AD(BEGIN)


000001B0                     000001B0  000001D0    127          ORG   ZVE6TST+X'1D0'        z/Architecure PROGRAM CHECK PSW
000001D0  00020001 80000000                         128          DC    X'0002000180000000'
000001D8  00000000 0000DEAD                         129          DC    AD(X'DEAD')


000001E0                     000001E0  00000200    131          ORG   ZVE6TST+X'200'        Start of actual test program...
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

                                                     133
                                                     134 ********************************************************************************
                                                     135 *               The actual "ZVE6TST" program itself...
                                                     136 ********************************************************************************
                                                     137 *
                                                     138 *  Architecture Mode: z/Arch
                                                     139 *  Register Usage:
                                                     140 *
                                                     141 *   R0       (work)
                                                     142 *   R1-4     (work)
                                                     143 *   R5       Testing control table - current test base
                                                     144 *   R6-R7    (work)
                                                     145 *   R8       First base register
                                                     146 *   R9       Second base register
                                                     147 *   R10      Third base register
                                                     148 *   R11      E6TEST call return
                                                     149 *   R12      E6TESTS register
                                                     150 *   R13      (work)
                                                     151 *   R14      Subroutine call
                                                     152 *   R15      Secondary Subroutine call or work
                                                     153 *
                                                     154 ********************************************************************************

00000200                          00000200           156          USING  BEGIN,R8        FIRST Base Register
00000200                          00001200           157          USING  BEGIN+4096,R9   SECOND Base Register
00000200                          00002200           158          USING  BEGIN+8192,R10  THIRD Base Register

00000200  0580                                       160 BEGIN    BALR   R8,0            Initalize FIRST base register
00000202  0680                                       161          BCTR   R8,0            Initalize FIRST base register
00000204  0680                                       162          BCTR   R8,0            Initalize FIRST base register

00000206  4190 8800                      00000800    164          LA     R9,2048(,R8)    Initalize SECOND base register
0000020A  4190 9800                      00000800    165          LA     R9,2048(,R9)    Initalize SECOND base register
                                                     166
0000020E  41A0 9800                      00000800    167          LA     R10,2048(,R9)   Initalize THIRD base register
00000212  41A0 A800                      00000800    168          LA     R10,2048(,R10)  Initalize THIRD base register
                                                     169
00000216  B600 82A4                      000004A4    170          STCTL  R0,R0,CTLR0     Store CR0 to enable AFP
0000021A  9604 82A5                      000004A5    171          OI     CTLR0+1,X'04'   Turn on AFP bit
0000021E  9602 82A5                      000004A5    172          OI     CTLR0+1,X'02'   Turn on Vector bit
00000222  B700 82A4                      000004A4    173          LCTL   R0,R0,CTLR0     Reload updated CR0
                                                     174
                                                     175 ********************************************************************************
                                                     176 * Is Vector-enhancements facility 2 installed  (bit 148
                                                     177 ********************************************************************************
                                                     178
                                                     179          FCHECK 148,'Vector-enhancements facility 2'
00000226  47F0 80B8                      000002B8    180+         B      X0001
                                                     181+*                                  Fcheck data area
                                                     182+*                                  skip messgae
0000022A  40404040 40404040                          183+SKT0001  DC     C'          Skipping tests: '
00000244  E58583A3 96996085                          184+         DC     C'Vector-enhancements facility 2'
00000262  40868183 899389A3                          185+         DC     C' facility (bit 148) is not installed.'
                            0000005D  00000001       186+SKL0001  EQU    *-SKT0001
                                                     187+*                                  facility bits
00000288  00000000 00000000                          188+         DS     FD              gap
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00000290  00000000 00000000                       189+FB0001   DS    4FD
000002B0  00000000 00000000                       190+         DS    FD                        gap
                                                  191+*
                             000002B8  00000001   192+X0001    EQU   *
000002B8  4100 0004                    00000004   193+         LA    R0,((X0001-FB0001)/8)-1
000002BC  B2B0 8090                    00000290   194+         STFLE FB0001                    get facility bits
000002C0  B982 0000                               195+         XGR   R0,R0
000002C4  4300 80A2                    000002A2   196+         IC    R0,FB0001+18              get fbit byte
000002C8  5400 82AC                    000004AC   197+         N     R0,=F'8'                  is bit set?
000002CC  4770 80E0                    000002E0   198+         BNZ   XC0001
                                                  199+*
                                                  200+* facility bit not set, issue message and exit
                                                  201+*
000002D0  4100 005D                    0000005D   202+         LA    R0,SKL0001                message length
000002D4  4110 802A                    0000022A   203+         LA    R1,SKT0001                message address
000002D8  4520 81C0                    000003C0   204+         BAL   R2,MSG
000002DC  47F0 8288                    00000488   205+         B     EOJ
                             000002E0  00000001   206+XC0001   EQU   *
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    208 ************************************************************************
                                                    209 *               Do tests in the E6TESTS table
                                                    210 ************************************************************************
                                                    211
000002E0  58C0 82B0                      000004B0   212           L     R12,=A(E6TESTS)       get table of test addresses
                                                    213
                                 000002E4 00000001   214 NEXTE6    EQU   *
000002E4  5850 C000                      00000000   215           L     R5,0(0,R12)       get test address
000002E8  1255                                      216           LTR   R5,R5                have a test?
000002EA  4780 8134                      00000334   217           BZ    ENDTEST                 done?
                                                    218
000002EE                         00000000           219           USING E6TEST,R5
                                                    220
000002EE  4800 5004                      00000004   221           LH    R0,TNUM           save current test number
000002F2  5000 8E04                      00001004   222           ST    R0,TESTING        for easy reference
                                                    223
000002F6  D20F 8E84 8EA4      00001084  000010A4   224           MVC   V1OUTPUT,V1FUDGE  pollute v1 output (stored)
000002FC  E710 8EB4 0006                 000010B4   225           VL    V1,V1INPUT
00000302  58B0 5000                      00000000   226           L     R11,TSUB          get address of test routine
00000306  05BB                                      227           BALR  R11,R11           do test
                                                    228
00000308  E310 5014 0014                 00000014   229           LGF   R1,READDR         get address of expected result
0000030E  D50F 8E84 1000      00001084  00000000   230           CLC   V1OUTPUT,0(R1)    valid?
00000314  4770 8120                      00000320   231           BNE   FAILMSG              no, issue failed message
                                                    232
00000318  41C0 C004                      00000004   233           LA    R12,4(0,R12)      next test address
0000031C  47F0 80E4                      000002E4   234           B     NEXTE6
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     236 ************************************************************************
                                                     237 * result not as expected:
                                                     238 *        issue message with test number, instruction under test
                                                     239 *              and instruction m3
                                                     240 ************************************************************************
                               00000320  00000001    241 FAILMSG  EQU   *
00000320  45F0 8142                      00000342    242          BAL   R15,RPTERROR
                                                     243


                                                     245 ************************************************************************
                                                     246 * continue after a failed test
                                                     247 ************************************************************************
                               00000324  00000001    248 FAILCONT EQU   *
00000324  5800 82B4                      000004B4    249          L     R0,=F'1'           set failed test indicator
00000328  5000 8E00                      00001000    250          ST    R0,FAILED
                                                     251
0000032C  41C0 C004                      00000004    252          LA    R12,4(0,R12)       next test address
00000330  47F0 80E4                      000002E4    253          B     NEXTE6


                                                     255 ************************************************************************
                                                     256 * end of testing; set ending psw
                                                     257 ************************************************************************
                               00000334  00000001    258 ENDTEST  EQU   *
00000334  5810 8E00                      00001000    259          L     R1,FAILED          did a test fail?
00000338  1211                                       260          LTR   R1,R1
0000033A  4780 8288                      00000488    261          BZ    EOJ                No, exit
0000033E  47F0 82A0                      000004A0    262          B     FAILTEST           Yes, exit with BAD PSW
                                                     263
```

```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                   265 ********************************************************************************
                                                   266 *        RPTERROR                  Report instruction test in error
                                                   267 ********************************************************************************

00000342  50F0 81A4                    000003A4   269 RPTERROR ST    R15,RPTSAVE          Save return address
00000346  5050 81A8                    000003A8   270          ST    R5,RPTSVR5           Save R5
                                                   271 *
0000034A  4820 5004                    00000004   272          LH    R2,TNUM              get test number and convert
0000034E  4E20 8E72                    00001072   273          CVD   R2,DECNUM
00000352  D211 8E5C 8E46  0000105C     00001046   274          MVC   PRT3,EDIT
00000358  DE11 8E5C 8E72  0000105C     00001072   275          ED    PRT3,DECNUM
0000035E  D202 8E18 8E69  00001018     00001069   276          MVC   PRTNUM(3),PRT3+13    fill in message with test #
                                                   277
00000364  D207 8E33 5008  00001033     00000008   278          MVC   PRTNAME,OPNAME       fill in message with instruction
                                                   279 *
0000036A  E320 5007 0076               00000007   280          LB    R2,M3                get m3 and convert
00000370  4E20 8E72                    00001072   281          CVD   R2,DECNUM
00000374  D211 8E5C 8E46  0000105C     00001046   282          MVC   PRT3,EDIT
0000037A  DE11 8E5C 8E72  0000105C     00001072   283          ED    PRT3,DECNUM
00000380  D200 8E44 8E6B  00001044     0000106B   284          MVC   PRTM3(1),PRT3+15     fill in message with m3 field

                                                   286 *
                                                   287 *        Use Hercules Diagnose for Message to console
                                                   288 *
00000386  9002 81B0                    000003B0   289          STM   R0,R2,RPTDWSAV       save regs used by MSG
0000038A  4100 003E                    0000003E   290          LA    R0,PRTLNG            message length
0000038E  4110 8E08                    00001008   291          LA    R1,PRTLINE             messagfe address
00000392  4520 81C0                    000003C0   292          BAL   R2,MSG               call Hercules console MSG display
00000396  9802 81B0                    000003B0   293          LM    R0,R2,RPTDWSAV       restore regs


0000039A  5850 81A8                    000003A8   295          L     R5,RPTSVR5           Restore R5
0000039E  58F0 81A4                    000003A4   296          L     R15,RPTSAVE          Restore return address
000003A2  07FF                                    297          BR    R15                  Return to caller

000003A4  00000000                                299 RPTSAVE  DC    F'0'                 R15 save area
000003A8  00000000                                300 RPTSVR5  DC    F'0'                 R5 save area

000003B0  00000000 00000000                       302 RPTDWSAV DC    2D'0'                R0-R2 save area for MSG call
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    304 ************************************************************************
                                                    305 *        Issue HERCULES MESSAGE pointed to by R1, length in R0
                                                    306 *              R2 = return address
                                                    307 ************************************************************************
000003C0  4900 82B8                      000004B8   309 MSG      CH    R0,=H'0'                Do we even HAVE a message?
000003C4  07D2                                      310           BNHR  R2                      No, ignore

000003C6  9002 81FC                      000003FC   312           STM   R0,R2,MSGSAVE           Save registers

000003CA  4900 82BA                      000004BA   314           CH    R0,=AL2(L'MSGMSG)       Message length within limits?
000003CE  47D0 81D6                      000003D6   315           BNH   MSGOK                   Yes, continue
000003D2  4100 005F                      0000005F   316           LA    R0,L'MSGMSG             No, set to maximum

000003D6  1820                                      318 MSGOK    LR    R2,R0                   Copy length to work register
000003D8  0620                                      319           BCTR  R2,0                    Minus-1 for execute
000003DA  4420 8208                      00000408   320           EX    R2,MSGMVC               Copy message to O/P buffer

000003DE  4120 200A                      0000000A   322           LA    R2,1+L'MSGCMD(,R2)      Calculate true command length
000003E2  4110 820E                      0000040E   323           LA    R1,MSGCMD               Point to true command

000003E6  83120008                                  325           DC    X'83',X'12',X'0008'     Issue Hercules Diagnose X'008'
000003EA  4780 81F6                      000003F6   326           BZ    MSGRET                  Return if successful
                                                    327
000003EE  1222                                      328           LTR   R2,R2                   Is Diag8 Ry (R2) 0?
000003F0  4780 81F6                      000003F6   329           BZ    MSGRET                    an error occurred but coninue
                                                    330
000003F4  0000                                      331           DC    H'0'                    CRASH for debugging purposes

000003F6  9802 81FC                      000003FC   333 MSGRET   LM    R0,R2,MSGSAVE           Restore registers
000003FA  07F2                                      334           BR    R2                      Return to caller


000003FC  00000000 00000000                         336 MSGSAVE  DC    3F'0'                   Registers save area
00000408  D200 8217 1000      00000417  00000000    337 MSGMVC   MVC   MSGMSG(0),0(R1)         Executed instruction


0000040E  D4E2C7D5 D6C8405C                         339 MSGCMD   DC    C'MSGNOH * '            *** HERCULES MESSAGE COMMAND ***
00000417  40404040 40404040                         340 MSGMSG   DC    CL95' '                 The message text to be displayed
                                                    341
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    343 ************************************************************************
                                                    344 *        Normal completion or Abnormal termination PSWs
                                                    345 ************************************************************************

00000478  00020001 80000000                         347 EOJPSW   DC    0D'0',X'0002000180000000',AD(0)
00000488  B2B2 8278                   00000478      349 EOJ      LPSWE EOJPSW               Normal completion

00000490  00020001 80000000                         351 FAILPSW  DC    0D'0',X'0002000180000000',AD(X'BAD')
000004A0  B2B2 8290                   00000490      353 FAILTEST LPSWE FAILPSW              Abnormal termination

                                                    355 ************************************************************************
                                                    356 *        Working Storage
                                                    357 ************************************************************************

000004A4  00000000                                  359 CTLR0    DS    F                    CR0
000004A8  00000000                                  360          DS    F

000004AC                                            362          LTORG ,                    Literals pool
000004AC  00000008                                  363                =F'8'
000004B0  000014D0                                  364                =A(E6TESTS)
000004B4  00000001                                  365                =F'1'
000004B8  0000                                      366                =H'0'
000004BA  005F                                      367                =AL2(L'MSGMSG)
                                                    368
                                                    369 *        some constants
                                                    370
                          00000400  00000001        371 K        EQU   1024               One KB
                          00001000  00000001        372 PAGE     EQU   (4*K)              Size of one page
                          00010000  00000001        373 K64      EQU   (64*K)             64 KB
                          00100000  00000001        374 MB       EQU   (K*K)               1 MB
                                                    375
                          AABBCCDD  00000001        376 REG2PATT EQU   X'AABBCCDD'     Polluted Register pattern
                          000000DD  00000001        377 REG2LOW  EQU         X'DD'     (last byte above)
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     379 *=====================================================================
                                                     380 *
                                                     381 *  NOTE: start data on an address that is easy to display
                                                     382 *        within Hercules
                                                     383 *
                                                     384 *=====================================================================
                                                     385
000004BC                      000004BC  00001000     386          ORG   ZVE6TST+X'1000'
00001000  00000000                                   387 FAILED   DC    F'0'                      some test failed?
00001004  00000000                                   388 TESTING  DC    F'0'                      current test number

                                                     390 *
                                                     391 *        failed message and associated editting
                                                     392 *
00001008  40404040 40404040                          393 PRTLINE  DC    C'         Test # '
00001018  A7A7A7                                     394 PRTNUM   DC    C'xxx'
0000101B  40868189 93858440                          395          DC    c' failed for instruction '
00001033  A7A7A7A7 A7A7A7A7                          396 PRTNAME  DC    CL8'xxxxxxxx'
0000103B  40A689A3 884094F3                          397          DC    C' with m3='
00001044  A7                                         398 PRTM3    DC    C'x'
00001045  4B                                        399          DC    C'.'
                              0000003E  00000001     400 PRTLNG   EQU   *-PRTLINE
00001046  40212020 20202020                          401 EDIT     DC    XL18'402120202020202020202020202020202020'
                                                     402
00001058  7E7E7E6E                                   403          DC    C'===>'
0000105C  40404040 40404040                          404 PRT3     DC    CL18' '
0000106E  4C7E7E7E                                   405          DC    C'<===='
00001072  00000000 00000000                          406 DECNUM   DS    CL16

                                                     408 *
                                                     409 *        Vector instruction results, pollution and input
                                                     410 *
00001084                                             411          DS    0F
00001084  00000000 00000000                          412 V1OUTPUT DS    XL16                                    V1 OUTPUT
00001094  00000000 00000000                          413          DS    XL16                                      gap
000010A4  FFFFFFFF FFFFFFFF                          414 V1FUDGE  DC    XL16'FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF'    V1 FUDGE
000010B4  00010203 04050607                          415 V1INPUT  DC    XL16'000102030405060708090101112131415'    V1 input
000010C4  00000000 00000000                          416          DS    XL16                                       gap
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     418 ********************************************************************************
                                                     419 *        E6TEST DSECT
                                                     420 ********************************************************************************


                                                     422 E6TEST   DSECT ,
00000000  00000000                                   423 TSUB     DC    A(0)           pointer  to test
00000004  0000                                       424 TNUM     DC    H'00'          Test Number
00000006  00                                         425          DC    X'00'
00000007  00                                         426 M3       DC    X'00'          M3 used
                                                     427
00000008  40404040 40404040                          428 OPNAME   DC    CL8' '         E6 name
00000010  00000000                                   429 RELEN    DC    A(0)           RESULT LENGTH
00000014  00000000                                   430 READDR   DC    A(0)
                                                     431
                                                     432 *        test routine will be here (from VRX macro)
                                                     433 *
                                                     434 *        followed by
                                                     435 *              EXPECTED RESULT


                          00000000  00001533         437 ZVE6TST  CSECT ,
000010D4                                             438          DS    0F


                                                     440 ********************************************************************************
                                                     441 *     Macros to help build test tables
                                                     442 ********************************************************************************


                                                     444 *
                                                     445 * macro to generate individual test
                                                     446 *
                                                     447          MACRO
                                                     448          VRX   &INST,&M3
                                                     449 .*                              &INST    - VRX instruction under test
                                                     450 .*                              &M3      - m3 field
                                                     451
                                                     452          GBLA  &TNUM
                                                     453 &TNUM    SETA  &TNUM+1
                                                     454
                                                     455          DS    0FD
                                                     456          USING *,R5             base for test data and test routine
                                                     457
                                                     458 T&TNUM   DC    A(X&TNUM)        address of test routine
                                                     459          DC    H'&TNUM'         test number
                                                     460          DC    X'00'
                                                     461          DC    X'&M3'           M3
                                                     462          DC    CL8'&INST'       instruction name
                                                     463          DC    A(16)            result length
                                                     464 REA&TNUM DC    A(RE&TNUM)       result address
                                                     465 .*
                                                     466 *
                                                     467          DS    0F
                                                     468 X&TNUM   &INST V1,V1OUTPUT,&M3   test instruction
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT

                                                      469           BR    R11                return
                                                      470
                                                      471 RE&TNUM   DC    0F                 xl16 result
                                                      472
                                                      473           DROP  R5
                                                      474           MEND



                                                      476 *
                                                      477 * macro to generate table of pointers to individual tests
                                                      478 *
                                                      479           MACRO
                                                      480           PTTABLE
                                                      481           GBLA  &TNUM
                                                      482           LCLA  &CUR
                                                      483 &CUR      SETA  1
                                                      484 .*
                                                      485 TTABLE     DS    0F
                                                      486 .LOOP     ANOP
                                                      487 .*
                                                      488           DC    A(T&CUR)           TEST &CUR
                                                      489 .*
                                                      490 &CUR      SETA  &CUR+1
                                                      491           AIF   (&CUR LE &TNUM).LOOP
                                                      492 *
                                                      493           DC    A(0)               END OF TABLE
                                                      494           DC    A(0)
                                                      495 .*
                                                      496           MEND
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     498 ************************************************************************
                                                     499 *        E6 VRX tests
                                                     500 ************************************************************************
                                                     501          PRINT DATA
                                                     502
                                                     503 *        E609 VSTEBRH - VECTOR STORE BYTE REVERSED ELEMENT (16)
                                                     504 *        E60A VSTEBRG - VECTOR STORE BYTE REVERSED ELEMENT (64)
                                                     505 *        E60B VSTEBRF - VECTOR STORE BYTE REVERSED ELEMENT (32)
                                                     506 *        E60E VSTBR   - VECTOR STORE BYTE REVERSED ELEMENTS
                                                     507 *        E60F VSTER   - VECTOR STORE ELEMENTS REVERSED
                                                     508
                                                     509 *        VRX   instruction, m3
                                                     510 *              followed by 16 byte expected result
                                                     511 *-----------------------------------------------------------------
                                                     512 * VSTEBRH - VECTOR STORE BYTE REVERSED ELEMENT (16)
                                                     513 *-----------------------------------------------------------------
                                                     514          VRX   VSTEBRH,0
000010D8                                             515+         DS    0FD
000010D8                          000010D8           516+         USING *,R5              base for test data and test routine
000010D8  000010F0                                   517+T1       DC    A(X1)             address of test routine
000010DC  0001                                       518+         DC    H'1'              test number
000010DE  00                                         519+         DC    X'00'
000010DF  00                                         520+         DC    X'0'              M3
000010E0  E5E2E3C5 C2D9C840                          521+         DC    CL8'VSTEBRH'      instruction name
000010E8  00000010                                   522+         DC    A(16)             result length
000010EC  000010F8                                   523+REA1     DC    A(RE1)            result address
                                                     524+*
000010F0                                             525+         DS    0F
000010F0  E610 8E84 0009                 00001084    526+X1       VSTEBRH V1,V1OUTPUT,0   test instruction
000010F6  07FB                                       527+         BR    R11               return
000010F8                                             528+RE1      DC    0F                xl16 result
000010F8                                             529+         DROP  R5
000010F8  0100FFFF FFFFFFFF                         530          DC    XL16'0100FFFFFFFFFFFFFFFFFFFFFFFF'
00001100  FFFFFFFF FFFFFFFF
                                                     531
                                                     532          VRX   VSTEBRH,1
00001108                                             533+         DS    0FD
00001108                          00001108           534+         USING *,R5              base for test data and test routine
00001108  00001120                                   535+T2       DC    A(X2)             address of test routine
0000110C  0002                                       536+         DC    H'2'              test number
0000110E  00                                         537+         DC    X'00'
0000110F  01                                         538+         DC    X'1'              M3
00001110  E5E2E3C5 C2D9C840                          539+         DC    CL8'VSTEBRH'      instruction name
00001118  00000010                                   540+         DC    A(16)             result length
0000111C  00001128                                   541+REA2     DC    A(RE2)            result address
                                                     542+*
00001120                                             543+         DS    0F
00001120  E610 8E84 1009                 00001084    544+X2       VSTEBRH V1,V1OUTPUT,1   test instruction
00001126  07FB                                       545+         BR    R11               return
00001128                                             546+RE2      DC    0F                xl16 result
00001128                                             547+         DROP  R5
00001128  0302FFFF FFFFFFFF                         548          DC    XL16'0302FFFFFFFFFFFFFFFFFFFFFFFF'
00001130  FFFFFFFF FFFFFFFF
                                                     549
                                                     550          VRX   VSTEBRH,2
00001138                                             551+         DS    0FD
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001138                     00001138              552+         USING *,R5              base for test data and test routine
00001138  00001150                                 553+T3       DC    A(X3)             address of test routine
0000113C  0003                                     554+         DC    H'3'              test number
0000113E  00                                       555+         DC    X'00'
0000113F  02                                       556+         DC    X'2'              M3
00001140  E5E2E3C5 C2D9C840                        557+         DC    CL8'VSTEBRH'      instruction name
00001148  00000010                                 558+         DC    A(16)             result length
0000114C  00001158                                 559+REA3     DC    A(RE3)            result address
                                                   560+*
00001150                                           561+         DS    0F
00001150  E610 8E84 2009               00001084    562+X3       VSTEBRH V1,V1OUTPUT,2   test instruction
00001156  07FB                                     563+         BR    R11               return
00001158                                           564+RE3      DC    0F                xl16 result
00001158                                           565+         DROP  R5
00001158  0504FFFF FFFFFFFF                        566          DC    XL16'0504FFFFFFFFFFFFFFFFFFFFFFFF'
00001160  FFFFFFFF FFFFFFFF
                                                   567
                                                   568          VRX   VSTEBRH,3
00001168                                           569+         DS    0FD
00001168                     00001168              570+         USING *,R5              base for test data and test routine
00001168  00001180                                 571+T4       DC    A(X4)             address of test routine
0000116C  0004                                     572+         DC    H'4'              test number
0000116E  00                                       573+         DC    X'00'
0000116F  03                                       574+         DC    X'3'              M3
00001170  E5E2E3C5 C2D9C840                        575+         DC    CL8'VSTEBRH'      instruction name
00001178  00000010                                 576+         DC    A(16)             result length
0000117C  00001188                                 577+REA4     DC    A(RE4)            result address
                                                   578+*
00001180                                           579+         DS    0F
00001180  E610 8E84 3009               00001084    580+X4       VSTEBRH V1,V1OUTPUT,3   test instruction
00001186  07FB                                     581+         BR    R11               return
00001188                                           582+RE4      DC    0F                xl16 result
00001188                                           583+         DROP  R5
00001188  0706FFFF FFFFFFFF                        584          DC    XL16'0706FFFFFFFFFFFFFFFFFFFFFFFF'
00001190  FFFFFFFF FFFFFFFF
                                                   585
                                                   586          VRX   VSTEBRH,4
00001198                                           587+         DS    0FD
00001198                     00001198              588+         USING *,R5              base for test data and test routine
00001198  000011B0                                 589+T5       DC    A(X5)             address of test routine
0000119C  0005                                     590+         DC    H'5'              test number
0000119E  00                                       591+         DC    X'00'
0000119F  04                                       592+         DC    X'4'              M3
000011A0  E5E2E3C5 C2D9C840                        593+         DC    CL8'VSTEBRH'      instruction name
000011A8  00000010                                 594+         DC    A(16)             result length
000011AC  000011B8                                 595+REA5     DC    A(RE5)            result address
                                                   596+*
000011B0                                           597+         DS    0F
000011B0  E610 8E84 4009               00001084    598+X5       VSTEBRH V1,V1OUTPUT,4   test instruction
000011B6  07FB                                     599+         BR    R11               return
000011B8                                           600+RE5      DC    0F                xl16 result
000011B8                                           601+         DROP  R5
000011B8  0908FFFF FFFFFFFF                        602          DC    XL16'0908FFFFFFFFFFFFFFFFFFFFFFFF'
000011C0  FFFFFFFF FFFFFFFF
                                                   603
                                                   604          VRX   VSTEBRH,5
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000011C8                                            605+          DS    0FD
000011C8                      000011C8              606+          USING *,R5              base for test data and test routine
000011C8  000011E0                                  607+T6        DC    A(X6)             address of test routine
000011CC  0006                                      608+          DC    H'6'              test number
000011CE  00                                        609+          DC    X'00'
000011CF  05                                        610+          DC    X'5'              M3
000011D0  E5E2E3C5 C2D9C840                         611+          DC    CL8'VSTEBRH'      instruction name
000011D8  00000010                                  612+          DC    A(16)             result length
000011DC  000011E8                                  613+REA6      DC    A(RE6)            result address
                                                    614+*
000011E0                                            615+          DS    0F
000011E0  E610 8E84 5009                00001084    616+X6        VSTEBRH V1,V1OUTPUT,5   test instruction
000011E6  07FB                                      617+          BR    R11               return
000011E8                                            618+RE6       DC    0F                xl16 result
000011E8                                            619+          DROP  R5
000011E8  1110FFFF FFFFFFFF                         620           DC    XL16'1110FFFFFFFFFFFFFFFFFFFFFFFFFFFF'
000011F0  FFFFFFFF FFFFFFFF
                                                    621
                                                    622           VRX   VSTEBRH,6
000011F8                                            623+          DS    0FD
000011F8                      000011F8              624+          USING *,R5              base for test data and test routine
000011F8  00001210                                  625+T7        DC    A(X7)             address of test routine
000011FC  0007                                      626+          DC    H'7'              test number
000011FE  00                                        627+          DC    X'00'
000011FF  06                                        628+          DC    X'6'              M3
00001200  E5E2E3C5 C2D9C840                         629+          DC    CL8'VSTEBRH'      instruction name
00001208  00000010                                  630+          DC    A(16)             result length
0000120C  00001218                                  631+REA7      DC    A(RE7)            result address
                                                    632+*
00001210                                            633+          DS    0F
00001210  E610 8E84 6009                00001084    634+X7        VSTEBRH V1,V1OUTPUT,6   test instruction
00001216  07FB                                      635+          BR    R11               return
00001218                                            636+RE7       DC    0F                xl16 result
00001218                                            637+          DROP  R5
00001218  1312FFFF FFFFFFFF                         638           DC    XL16'1312FFFFFFFFFFFFFFFFFFFFFFFFFFFF'
00001220  FFFFFFFF FFFFFFFF
                                                    639
                                                    640           VRX   VSTEBRH,7
00001228                                            641+          DS    0FD
00001228                      00001228              642+          USING *,R5              base for test data and test routine
00001228  00001240                                  643+T8        DC    A(X8)             address of test routine
0000122C  0008                                      644+          DC    H'8'              test number
0000122E  00                                        645+          DC    X'00'
0000122F  07                                        646+          DC    X'7'              M3
00001230  E5E2E3C5 C2D9C840                         647+          DC    CL8'VSTEBRH'      instruction name
00001238  00000010                                  648+          DC    A(16)             result length
0000123C  00001248                                  649+REA8      DC    A(RE8)            result address
                                                    650+*
00001240                                            651+          DS    0F
00001240  E610 8E84 7009                00001084    652+X8        VSTEBRH V1,V1OUTPUT,7   test instruction
00001246  07FB                                      653+          BR    R11               return
00001248                                            654+RE8       DC    0F                xl16 result
00001248                                            655+          DROP  R5
00001248  1514FFFF FFFFFFFF                         656           DC    XL16'1514FFFFFFFFFFFFFFFFFFFFFFFFFFFF'
00001250  FFFFFFFF FFFFFFFF
                                                    657
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                     658 *-------------------------------------------------------------------
                                                     659 * VSTEBRG - VECTOR STORE BYTE REVERSED ELEMENT (64)
                                                     660 *-------------------------------------------------------------------
                                                     661          VRX   VSTEBRG,0
00001258                                             662+         DS    0FD
00001258                       00001258              663+         USING *,R5              base for test data and test routine
00001258  00001270                                   664+T9       DC    A(X9)             address of test routine
0000125C  0009                                       665+         DC    H'9'              test number
0000125E  00                                         666+         DC    X'00'
0000125F  00                                         667+         DC    X'0'              M3
00001260  E5E2E3C5 C2D9C740                         668+         DC    CL8'VSTEBRG'      instruction name
00001268  00000010                                   669+         DC    A(16)             result length
0000126C  00001278                                   670+REA9     DC    A(RE9)            result address
                                                     671+*
00001270                                             672+         DS    0F
00001270  E610 8E84 000A               00001084      673+X9       VSTEBRG V1,V1OUTPUT,0   test instruction
00001276  07FB                                       674+         BR    R11               return
00001278                                             675+RE9      DC    0F                xl16 result
00001278                                             676+         DROP  R5
00001278  07060504 03020100                         677          DC    XL16'07060504030201
00001280  FFFFFFFF FFFFFFFF                                                00FFFFFFFFFFFFFF'
                                                     678
                                                     679          VRX   VSTEBRG,1
00001288                                             680+         DS    0FD
00001288                       00001288              681+         USING *,R5              base for test data and test routine
00001288  000012A0                                   682+T10      DC    A(X10)            address of test routine
0000128C  000A                                       683+         DC    H'10'             test number
0000128E  00                                         684+         DC    X'00'
0000128F  01                                         685+         DC    X'1'              M3
00001290  E5E2E3C5 C2D9C740                         686+         DC    CL8'VSTEBRG'      instruction name
00001298  00000010                                   687+         DC    A(16)             result length
0000129C  000012A8                                   688+REA10    DC    A(RE10)           result address
                                                     689+*
000012A0                                             690+         DS    0F
000012A0  E610 8E84 100A               00001084      691+X10      VSTEBRG V1,V1OUTPUT,1   test instruction
000012A6  07FB                                       692+         BR    R11               return
000012A8                                             693+RE10     DC    0F                xl16 result
000012A8                                             694+         DROP  R5
000012A8  15141312 11100908                         695          DC    XL16'15141312111009
000012B0  FFFFFFFF FFFFFFFF                                                08FFFFFFFFFFFFFF'
                                                     696
                                                     697
                                                     698 *-------------------------------------------------------------------
                                                     699 * VSTEBRF - VECTOR STORE BYTE REVERSED ELEMENT (32)
                                                     700 *-------------------------------------------------------------------
                                                     701          VRX   VSTEBRF,0
000012B8                                             702+         DS    0FD
000012B8                       000012B8              703+         USING *,R5              base for test data and test routine
000012B8  000012D0                                   704+T11      DC    A(X11)            address of test routine
000012BC  000B                                       705+         DC    H'11'             test number
000012BE  00                                         706+         DC    X'00'
000012BF  00                                         707+         DC    X'0'              M3
000012C0  E5E2E3C5 C2D9C640                         708+         DC    CL8'VSTEBRF'      instruction name
000012C8  00000010                                   709+         DC    A(16)             result length
000012CC  000012D8                                   710+REA11    DC    A(RE11)           result address
                                                     711+*
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000012D0                                           712+          DS    0F
000012D0  E610 8E84 000B                 00001084  713+X11       VSTEBRF V1,V1OUTPUT,0   test instruction
000012D6  07FB                                     714+          BR    R11               return
000012D8                                           715+RE11      DC    0F                xl16 result
000012D8                                           716+          DROP  R5
000012D8  03020100 FFFFFFFF                        717           DC    XL16'03020100FFFFFFFFFFFFFFFFFFFFFFFF'
000012E0  FFFFFFFF FFFFFFFF
                                                   718
                                                   719           VRX   VSTEBRF,1
000012E8                                           720+          DS    0FD
000012E8                    000012E8               721+          USING *,R5              base for test data and test routine
000012E8  00001300                                 722+T12       DC    A(X12)            address of test routine
000012EC  000C                                     723+          DC    H'12'             test number
000012EE  00                                       724+          DC    X'00'
000012EF  01                                       725+          DC    X'1'              M3
000012F0  E5E2E3C5 C2D9C640                        726+          DC    CL8'VSTEBRF'      instruction name
000012F8  00000010                                 727+          DC    A(16)             result length
000012FC  00001308                                 728+REA12     DC    A(RE12)           result address
                                                   729+*
00001300                                           730+          DS    0F
00001300  E610 8E84 100B                 00001084  731+X12       VSTEBRF V1,V1OUTPUT,1   test instruction
00001306  07FB                                     732+          BR    R11               return
00001308                                           733+RE12      DC    0F                xl16 result
00001308                                           734+          DROP  R5
00001308  07060504 FFFFFFFF                        735           DC    XL16'07060504FFFFFFFFFFFFFFFFFFFFFFFF'
00001310  FFFFFFFF FFFFFFFF
                                                   736
                                                   737           VRX   VSTEBRF,2
00001318                                           738+          DS    0FD
00001318                    00001318               739+          USING *,R5              base for test data and test routine
00001318  00001330                                 740+T13       DC    A(X13)            address of test routine
0000131C  000D                                     741+          DC    H'13'             test number
0000131E  00                                       742+          DC    X'00'
0000131F  02                                       743+          DC    X'2'              M3
00001320  E5E2E3C5 C2D9C640                        744+          DC    CL8'VSTEBRF'      instruction name
00001328  00000010                                 745+          DC    A(16)             result length
0000132C  00001338                                 746+REA13     DC    A(RE13)           result address
                                                   747+*
00001330                                           748+          DS    0F
00001330  E610 8E84 200B                 00001084  749+X13       VSTEBRF V1,V1OUTPUT,2   test instruction
00001336  07FB                                     750+          BR    R11               return
00001338                                           751+RE13      DC    0F                xl16 result
00001338                                           752+          DROP  R5
00001338  11100908 FFFFFFFF                        753           DC    XL16'11100908FFFFFFFFFFFFFFFFFFFFFFFF'
00001340  FFFFFFFF FFFFFFFF
                                                   754
                                                   755           VRX   VSTEBRF,3
00001348                                           756+          DS    0FD
00001348                    00001348               757+          USING *,R5              base for test data and test routine
00001348  00001360                                 758+T14       DC    A(X14)            address of test routine
0000134C  000E                                     759+          DC    H'14'             test number
0000134E  00                                       760+          DC    X'00'
0000134F  03                                       761+          DC    X'3'              M3
00001350  E5E2E3C5 C2D9C640                        762+          DC    CL8'VSTEBRF'      instruction name
00001358  00000010                                 763+          DC    A(16)             result length
0000135C  00001368                                 764+REA14     DC    A(RE14)           result address
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                                    765+*
00001360                                            766+         DS    0F
00001360  E610 8E84 300B                 00001084   767+X14      VSTEBRF V1,V1OUTPUT,3   test instruction
00001366  07FB                                      768+         BR    R11               return
00001368                                            769+RE14     DC    0F                xl16 result
00001368                                            770+         DROP  R5
00001368  15141312 FFFFFFFF                         771          DC    XL16'15141312FFFFFFFFFFFFFFFFFFFFFFFF'
00001370  FFFFFFFF FFFFFFFF
                                                    772
                                                    773 *-------------------------------------------------------------------
                                                    774 * VSTBR   - VECTOR STORE BYTE REVERSED ELEMENTS
                                                    775 *-------------------------------------------------------------------
                                                    776          VRX   VSTBR,1
00001378                                            777+         DS    0FD
00001378                         00001378           778+         USING *,R5              base for test data and test routine
00001378  00001390                                  779+T15      DC    A(X15)            address of test routine
0000137C  000F                                      780+         DC    H'15'             test number
0000137E  00                                        781+         DC    X'00'
0000137F  01                                        782+         DC    X'1'              M3
00001380  E5E2E3C2 D9404040                         783+         DC    CL8'VSTBR'        instruction name
00001388  00000010                                  784+         DC    A(16)             result length
0000138C  00001398                                  785+REA15    DC    A(RE15)           result address
                                                    786+*
00001390                                            787+         DS    0F
00001390  E610 8E84 100E                 00001084   788+X15      VSTBR V1,V1OUTPUT,1     test instruction
00001396  07FB                                      789+         BR    R11               return
00001398                                            790+RE15     DC    0F                xl16 result
00001398                                            791+         DROP  R5
00001398  01000302 05040706                         792          DC    XL16'01000302050407060908111013121514'
000013A0  09081110 13121514
                                                    793
                                                    794          VRX   VSTBR,2
000013A8                                            795+         DS    0FD
000013A8                         000013A8           796+         USING *,R5              base for test data and test routine
000013A8  000013C0                                  797+T16      DC    A(X16)            address of test routine
000013AC  0010                                      798+         DC    H'16'             test number
000013AE  00                                        799+         DC    X'00'
000013AF  02                                        800+         DC    X'2'              M3
000013B0  E5E2E3C2 D9404040                         801+         DC    CL8'VSTBR'        instruction name
000013B8  00000010                                  802+         DC    A(16)             result length
000013BC  000013C8                                  803+REA16    DC    A(RE16)           result address
                                                    804+*
000013C0                                            805+         DS    0F
000013C0  E610 8E84 200E                 00001084   806+X16      VSTBR V1,V1OUTPUT,2     test instruction
000013C6  07FB                                      807+         BR    R11               return
000013C8                                            808+RE16     DC    0F                xl16 result
000013C8                                            809+         DROP  R5
000013C8  03020100 07060504                         810          DC    XL16'03020100070605041110090815141312'
000013D0  11100908 15141312
                                                    811
                                                    812          VRX   VSTBR,3
000013D8                                            813+         DS    0FD
000013D8                         000013D8           814+         USING *,R5              base for test data and test routine
000013D8  000013F0                                  815+T17      DC    A(X17)            address of test routine
000013DC  0011                                      816+         DC    H'17'             test number
000013DE  00                                        817+         DC    X'00'
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
000013DF  03                                       818+         DC    X'3'                M3
000013E0  E5E2E3C2 D9404040                        819+         DC    CL8'VSTBR'          instruction name
000013E8  00000010                                 820+         DC    A(16)               result length
000013EC  000013F8                                 821+REA17    DC    A(RE17)             result address
                                                   822+*
000013F0                                           823+         DS    0F
000013F0  E610 8E84 300E                00001084   824+X17      VSTBR V1,V1OUTPUT,3       test instruction
000013F6  07FB                                     825+         BR    R11                 return
000013F8                                           826+RE17     DC    0F                  xl16 result
000013F8                                           827+         DROP  R5
000013F8  07060504 03020100                       828          DC    XL16'07060504030201001514131211100908'
00001400  15141312 11100908
                                                   829
                                                   830          VRX   VSTBR,4
00001408                                           831+         DS    0FD
00001408                        00001408           832+         USING *,R5                base for test data and test routine
00001408  00001420                                 833+T18      DC    A(X18)              address of test routine
0000140C  0012                                     834+         DC    H'18'               test number
0000140E  00                                       835+         DC    X'00'
0000140F  04                                       836+         DC    X'4'                M3
00001410  E5E2E3C2 D9404040                        837+         DC    CL8'VSTBR'          instruction name
00001418  00000010                                 838+         DC    A(16)               result length
0000141C  00001428                                 839+REA18    DC    A(RE18)             result address
                                                   840+*
00001420                                           841+         DS    0F
00001420  E610 8E84 400E                00001084   842+X18      VSTBR V1,V1OUTPUT,4       test instruction
00001426  07FB                                     843+         BR    R11                 return
00001428                                           844+RE18     DC    0F                  xl16 result
00001428                                           845+         DROP  R5
00001428  15141312 11100908                       846          DC    XL16'1514131211100908070605040302010'
00001430  07060504 03020100
                                                   847
                                                   848 *-------------------------------------------------------------------
                                                   849 * VSTER   - VECTOR STORE ELEMENTS REVERSED
                                                   850 *-------------------------------------------------------------------
                                                   851          VRX   VSTER,1
00001438                                           852+         DS    0FD
00001438                        00001438           853+         USING *,R5                base for test data and test routine
00001438  00001450                                 854+T19      DC    A(X19)              address of test routine
0000143C  0013                                     855+         DC    H'19'               test number
0000143E  00                                       856+         DC    X'00'
0000143F  01                                       857+         DC    X'1'                M3
00001440  E5E2E3C5 D9404040                        858+         DC    CL8'VSTER'          instruction name
00001448  00000010                                 859+         DC    A(16)               result length
0000144C  00001458                                 860+REA19    DC    A(RE19)             result address
                                                   861+*
00001450                                           862+         DS    0F
00001450  E610 8E84 100F                00001084   863+X19      VSTER V1,V1OUTPUT,1       test instruction
00001456  07FB                                     864+         BR    R11                 return
00001458                                           865+RE19     DC    0F                  xl16 result
00001458                                           866+         DROP  R5
00001458  14151213 10110809                        867          DC    XL16'1415121310110809060704050203000'
00001460  06070405 02030001
                                                   868
                                                   869          VRX   VSTER,2
00001468                                           870+         DS    0FD
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT
00001468                     00001468              871+          USING *,R5              base for test data and test routine
00001468  00001480                                 872+T20       DC    A(X20)            address of test routine
0000146C  0014                                     873+          DC    H'20'             test number
0000146E  00                                       874+          DC    X'00'
0000146F  02                                       875+          DC    X'2'              M3
00001470  E5E2E3C5 D9404040                        876+          DC    CL8'VSTER'        instruction name
00001478  00000010                                 877+          DC    A(16)             result length
0000147C  00001488                                 878+REA20     DC    A(RE20)           result address
                                                   879+*
00001480                                           880+          DS    0F
00001480  E610 8E84 200F               00001084    881+X20       VSTER V1,V1OUTPUT,2     test instruction
00001486  07FB                                     882+          BR    R11               return
00001488                                           883+RE20      DC    0F                xl16 result
00001488                                           884+          DROP  R5
00001488  12131415 08091011                        885           DC    XL16'12131415080910110405060700010203'
00001490  04050607 00010203
                                                   886
                                                   887           VRX   VSTER,3
00001498                                           888+          DS    0FD
00001498                     00001498              889+          USING *,R5              base for test data and test routine
00001498  000014B0                                 890+T21       DC    A(X21)            address of test routine
0000149C  0015                                     891+          DC    H'21'             test number
0000149E  00                                       892+          DC    X'00'
0000149F  03                                       893+          DC    X'3'              M3
000014A0  E5E2E3C5 D9404040                        894+          DC    CL8'VSTER'        instruction name
000014A8  00000010                                 895+          DC    A(16)             result length
000014AC  000014B8                                 896+REA21     DC    A(RE21)           result address
                                                   897+*
000014B0                                           898+          DS    0F
000014B0  E610 8E84 300F               00001084    899+X21       VSTER V1,V1OUTPUT,3     test instruction
000014B6  07FB                                     900+          BR    R11               return
000014B8                                           901+RE21      DC    0F                xl16 result
000014B8                                           902+          DROP  R5
000014B8  08091011 12131415                        903           DC    XL16'08091011121314150001020304050607'
000014C0  00010203 04050607
                                                   904
000014C8  00000000                                 905           DC    F'0'      END OF TABLE
000014CC  00000000                                 906           DC    F'0'
                                                   907 *
                                                   908 * table of pointers to individual load test
                                                   909 *
000014D0                                           910 E6TESTS   DS    0F
                                                   911           PTTABLE
000014D0                                           912+TTABLE    DS    0F
000014D0  000010D8                                 913+          DC    A(T1)             TEST &CUR
000014D4  00001108                                 914+          DC    A(T2)             TEST &CUR
000014D8  00001138                                 915+          DC    A(T3)             TEST &CUR
000014DC  00001168                                 916+          DC    A(T4)             TEST &CUR
000014E0  00001198                                 917+          DC    A(T5)             TEST &CUR
000014E4  000011C8                                 918+          DC    A(T6)             TEST &CUR
000014E8  000011F8                                 919+          DC    A(T7)             TEST &CUR
000014EC  00001228                                 920+          DC    A(T8)             TEST &CUR
000014F0  00001258                                 921+          DC    A(T9)             TEST &CUR
000014F4  00001288                                 922+          DC    A(T10)            TEST &CUR
000014F8  000012B8                                 923+          DC    A(T11)            TEST &CUR
000014FC  000012E8                                 924+          DC    A(T12)            TEST &CUR
```

```
  LOC        OBJECT CODE       ADDR1     ADDR2     STMT

00001500  00001318                                925+          DC    A(T13)             TEST &CUR
00001504  00001348                                926+          DC    A(T14)             TEST &CUR
00001508  00001378                                927+          DC    A(T15)             TEST &CUR
0000150C  000013A8                                928+          DC    A(T16)             TEST &CUR
00001510  000013D8                                929+          DC    A(T17)             TEST &CUR
00001514  00001408                                930+          DC    A(T18)             TEST &CUR
00001518  00001438                                931+          DC    A(T19)             TEST &CUR
0000151C  00001468                                932+          DC    A(T20)             TEST &CUR
00001520  00001498                                933+          DC    A(T21)             TEST &CUR
                                                  934+*
00001524  00000000                                935+          DC    A(0)               END OF TABLE
00001528  00000000                                936+          DC    A(0)
                                                  937
0000152C  00000000                                938           DC    F'0'     END OF TABLE
00001530  00000000                                939           DC    F'0'
```

```
 LOC        OBJECT CODE       ADDR1     ADDR2     STMT
                                          941 ********************************************************************************
                                          942 *        Register equates
                                          943 ********************************************************************************

                            00000000  00000001   945 R0       EQU   0
                            00000001  00000001   946 R1       EQU   1
                            00000002  00000001   947 R2       EQU   2
                            00000003  00000001   948 R3       EQU   3
                            00000004  00000001   949 R4       EQU   4
                            00000005  00000001   950 R5       EQU   5
                            00000006  00000001   951 R6       EQU   6
                            00000007  00000001   952 R7       EQU   7
                            00000008  00000001   953 R8       EQU   8
                            00000009  00000001   954 R9       EQU   9
                            0000000A  00000001   955 R10      EQU   10
                            0000000B  00000001   956 R11      EQU   11
                            0000000C  00000001   957 R12      EQU   12
                            0000000D  00000001   958 R13      EQU   13
                            0000000E  00000001   959 R14      EQU   14
                            0000000F  00000001   960 R15      EQU   15
```

```
                                          962 ********************************************************************************
                                          963 *        Register equates
                                          964 ********************************************************************************

                            00000000  00000001   966 V0       EQU   0
                            00000001  00000001   967 V1       EQU   1
                            00000002  00000001   968 V2       EQU   2
                            00000003  00000001   969 V3       EQU   3
                            00000004  00000001   970 V4       EQU   4
                            00000005  00000001   971 V5       EQU   5
                            00000006  00000001   972 V6       EQU   6
                            00000007  00000001   973 V7       EQU   7
                            00000008  00000001   974 V8       EQU   8
                            00000009  00000001   975 V9       EQU   9
                            0000000A  00000001   976 V10      EQU   10
                            0000000B  00000001   977 V11      EQU   11
                            0000000C  00000001   978 V12      EQU   12
                            0000000D  00000001   979 V13      EQU   13
                            0000000E  00000001   980 V14      EQU   14
                            0000000F  00000001   981 V15      EQU   15
                            00000010  00000001   982 V16      EQU   16
                            00000011  00000001   983 V17      EQU   17
                            00000012  00000001   984 V18      EQU   18
                            00000013  00000001   985 V19      EQU   19
                            00000014  00000001   986 V20      EQU   20
                            00000015  00000001   987 V21      EQU   21
```

```
  LOC         OBJECT CODE       ADDR1     ADDR2     STMT
                                00000016  00000001   988 V22      EQU   22
                                00000017  00000001   989 V23      EQU   23
                                00000018  00000001   990 V24      EQU   24
                                00000019  00000001   991 V25      EQU   25
                                0000001A  00000001   992 V26      EQU   26
                                0000001B  00000001   993 V27      EQU   27
                                0000001C  00000001   994 V28      EQU   28
                                0000001D  00000001   995 V29      EQU   29
                                0000001E  00000001   996 V30      EQU   30
                                0000001F  00000001   997 V31      EQU   31
                                                     998
                                                     999          END
```

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
BEGIN	I	00000200	2	160	125 156 157 158
CTLR0	F	000004A4	4	359	170 171 172 173
DECNUM	C	00001072	16	406	273 275 281 283
E6TEST	4	00000000	24	422	219
E6TESTS	F	000014D0	4	910	212
EDIT	X	00001046	18	401	274 282
ENDTEST	U	00000334	1	258	217
EOJ	I	00000488	4	349	205 261
EOJPSW	D	00000478	8	347	349
FAILCONT	U	00000324	1	248	
FAILED	F	00001000	4	387	250 259
FAILMSG	U	00000320	1	241	231
FAILPSW	D	00000490	8	351	353
FAILTEST	I	000004A0	4	353	262
FB0001	F	00000290	8	189	193 194 196
IMAGE	1	00000000	5428	0	
K	U	00000400	1	371	372 373 374
K64	U	00010000	1	373	
M3	X	00000007	1	426	280
MB	U	00100000	1	374	
MSG	I	000003C0	4	309	204 292
MSGCMD	C	0000040E	9	339	322 323
MSGMSG	C	00000417	95	340	316 337 314
MSGMVC	I	00000408	6	337	320
MSGOK	I	000003D6	2	318	315
MSGRET	I	000003F6	4	333	326 329
MSGSAVE	F	000003FC	4	336	312 333
NEXTE6	U	000002E4	1	214	234 253
OPNAME	C	00000008	8	428	278
PAGE	U	00001000	1	372	
PRT3	C	0000105C	18	404	274 275 276 282 283 284
PRTLINE	C	00001008	16	393	400 291
PRTLNG	U	0000003E	1	400	290
PRTM3	C	00001044	1	398	284
PRTNAME	C	00001033	8	396	278
PRTNUM	C	00001018	3	394	276
R0	U	00000000	1	945	119 170 173 193 195 196 197 202 221 222 249 250 289 290 293 309 312 314 316 318 333
R1	U	00000001	1	946	203 229 230 259 260 291 323 337
R10	U	0000000A	1	955	158 167 168
R11	U	0000000B	1	956	226 227 527 545 563 581 599 617 635 653 674 692 714 732 750 768 789 807 825 843 864 882 900
R12	U	0000000C	1	957	212 215 233 252
R13	U	0000000D	1	958	
R14	U	0000000E	1	959	
R15	U	0000000F	1	960	242 269 296 297
R2	U	00000002	1	947	204 272 273 280 281 289 292 293 310 312 318 319 320 322 328 333 334
R3	U	00000003	1	948	
R4	U	00000004	1	949	
R5	U	00000005	1	950	215 216 219 270 295 516 529 534 547 552 565 570 583 588 601 606 619 624 637 642 655 663 676 681 694 703 716 721 734 739 752 757 770 778 791 796 809 814 827 832 845 853 866 871 884 889 902
R6	U	00000006	1	951	
R7	U	00000007	1	952	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
R8	U	00000008	1	953	156 160 161 162 164
R9	U	00000009	1	954	157 164 165 167
RE1	F	000010F8	4	528	523
RE10	F	000012A8	4	693	688
RE11	F	000012D8	4	715	710
RE12	F	00001308	4	733	728
RE13	F	00001338	4	751	746
RE14	F	00001368	4	769	764
RE15	F	00001398	4	790	785
RE16	F	000013C8	4	808	803
RE17	F	000013F8	4	826	821
RE18	F	00001428	4	844	839
RE19	F	00001458	4	865	860
RE2	F	00001128	4	546	541
RE20	F	00001488	4	883	878
RE21	F	000014B8	4	901	896
RE3	F	00001158	4	564	559
RE4	F	00001188	4	582	577
RE5	F	000011B8	4	600	595
RE6	F	000011E8	4	618	613
RE7	F	00001218	4	636	631
RE8	F	00001248	4	654	649
RE9	F	00001278	4	675	670
REA1	A	000010EC	4	523	
REA10	A	0000129C	4	688	
REA11	A	000012CC	4	710	
REA12	A	000012FC	4	728	
REA13	A	0000132C	4	746	
REA14	A	0000135C	4	764	
REA15	A	0000138C	4	785	
REA16	A	000013BC	4	803	
REA17	A	000013EC	4	821	
REA18	A	0000141C	4	839	
REA19	A	0000144C	4	860	
REA2	A	0000111C	4	541	
REA20	A	0000147C	4	878	
REA21	A	000014AC	4	896	
REA3	A	0000114C	4	559	
REA4	A	0000117C	4	577	
REA5	A	000011AC	4	595	
REA6	A	000011DC	4	613	
REA7	A	0000120C	4	631	
REA8	A	0000123C	4	649	
REA9	A	0000126C	4	670	
READDR	A	00000014	4	430	229
REG2LOW	U	000000DD	1	377	
REG2PATT	U	AABBCCDD	1	376	
RELEN	A	00000010	4	429	
RPTDWSAV	D	000003B0	8	302	289 293
RPTERROR	I	00000342	4	269	242
RPTSAVE	F	000003A4	4	299	269 296
RPTSVR5	F	000003A8	4	300	270 295
SKL0001	U	0000005D	1	186	202
SKT0001	C	0000022A	26	183	186 203
SVOLDPSW	U	00000140	0	121	
T1	A	000010D8	4	517	913

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
T10	A	00001288	4	682	922
T11	A	000012B8	4	704	923
T12	A	000012E8	4	722	924
T13	A	00001318	4	740	925
T14	A	00001348	4	758	926
T15	A	00001378	4	779	927
T16	A	000013A8	4	797	928
T17	A	000013D8	4	815	929
T18	A	00001408	4	833	930
T19	A	00001438	4	854	931
T2	A	00001108	4	535	914
T20	A	00001468	4	872	932
T21	A	00001498	4	890	933
T3	A	00001138	4	553	915
T4	A	00001168	4	571	916
T5	A	00001198	4	589	917
T6	A	000011C8	4	607	918
T7	A	000011F8	4	625	919
T8	A	00001228	4	643	920
T9	A	00001258	4	664	921
TESTING	F	00001004	4	388	222
TNUM	H	00000004	2	424	221 272
TSUB	A	00000000	4	423	226
TTABLE	F	000014D0	4	912	
V0	U	00000000	1	966	
V1	U	00000001	1	967	225 526 544 562 580 598 616 634 652 673 691 713 731 749 767 788 806 824 842 863 881 899
V10	U	0000000A	1	976	
V11	U	0000000B	1	977	
V12	U	0000000C	1	978	
V13	U	0000000D	1	979	
V14	U	0000000E	1	980	
V15	U	0000000F	1	981	
V16	U	00000010	1	982	
V17	U	00000011	1	983	
V18	U	00000012	1	984	
V19	U	00000013	1	985	
V1FUDGE	X	000010A4	16	414	224
V1INPUT	X	000010B4	16	415	225
V1OUTPUT	X	00001084	16	412	224 230 526 544 562 580 598 616 634 652 673 691 713 731 749 767 788 806 824 842 863 881 899
V2	U	00000002	1	968	
V20	U	00000014	1	986	
V21	U	00000015	1	987	
V22	U	00000016	1	988	
V23	U	00000017	1	989	
V24	U	00000018	1	990	
V25	U	00000019	1	991	
V26	U	0000001A	1	992	
V27	U	0000001B	1	993	
V28	U	0000001C	1	994	
V29	U	0000001D	1	995	
V3	U	00000003	1	969	
V30	U	0000001E	1	996	
V31	U	0000001F	1	997	
V4	U	00000004	1	970	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
V5	U	00000005	1	971	
V6	U	00000006	1	972	
V7	U	00000007	1	973	
V8	U	00000008	1	974	
V9	U	00000009	1	975	
X0001	U	000002B8	1	192	180 193
X1	I	000010F0	6	526	517
X10	I	000012A0	6	691	682
X11	I	000012D0	6	713	704
X12	I	00001300	6	731	722
X13	I	00001330	6	749	740
X14	I	00001360	6	767	758
X15	I	00001390	6	788	779
X16	I	000013C0	6	806	797
X17	I	000013F0	6	824	815
X18	I	00001420	6	842	833
X19	I	00001450	6	863	854
X2	I	00001120	6	544	535
X20	I	00001480	6	881	872
X21	I	000014B0	6	899	890
X3	I	00001150	6	562	553
X4	I	00001180	6	580	571
X5	I	000011B0	6	598	589
X6	I	000011E0	6	616	607
X7	I	00001210	6	634	625
X8	I	00001240	6	652	643
X9	I	00001270	6	673	664
XC0001	U	000002E0	1	206	198
ZVE6TST	J	00000000	5428	118	121 123 127 131 386 119
=A(E6TESTS)	A	000004B0	4	364	212
=AL2(L'MSGMSG)	R	000004BA	2	367	314
=F'1'	F	000004B4	4	365	249
=F'8'	F	000004AC	4	363	197
=H'0'	H	000004B8	2	366	309

```
 MACRO    DEFN  REFERENCES

FCHECK     70   179
PTTABLE   480   911
VRX       448   514   532   550   568   586   604   622   640   661   679   701   719   737   755   776   794   812   830   851   869   887
```

```
   DESC      SYMBOL   SIZE      POS         ADDR

Entry: 0

Image       IMAGE    5428   0000-1533   0000-1533
  Region             5428   0000-1533   0000-1533
    CSECT   ZVE6TST  5428   0000-1533   0000-1533
```

```
   STMT                         FILE NAME
1     /home/tn529/sharedvfp/tests/zvector-e6-02-stores.asm

** NO ERRORS FOUND **
```