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TITLE

VTAM CUSTOMER ACCEPTANCE TEST SPECIFICATION

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SECTION 1
INTRODUCTION

1.1 INTRODUCTION

The VORTEX Telecommunications Access Method (VTAM) provides teleprocessing controls for communications controllers, modems, terminals, communications networks and network operator interfacing. VTAM is an integral part of the VORTEX operating system. It extends the capabilities of the real-time multi-tasking operating system into the growing area of telecommunications.

Through the combination of VTAM and VORTEX access to remote devices is as simple as that for on-site computer peripherals. VTAM gives the user the same format for requests for telecommunications as is available for printers and magnetic tape units.

At the same time, the user is assured of an open ended system design that can accomodate his future requirements. VTAM is modular in its structure and so provides a software foundation on which to build systems tailored to their applications.

In summary VTAM provides:

a standard subsystem under VORTEX without affecting the utility of VORTEX in other applications

phased implementation to allow changes for new equipment and expansion

modularity in structure to satisfy diverse requirements

interfaces allowing for applications to be alleviated from handling line and terminal characteristics

a simplified method of configuring lines and terminals through the Network Definition Language

VTAM functions a user can call to allocate memory dynamically.

1.2 PURPOSE

The purpose of this acceptance test specification is to demonstrate to the customer the satisfactory functioning of the major capabilities of the VTAM subsystem. It is not intended to demonstrate all possible capabilities of VTAM, but tests have been selected to cover the majority of system features.

Included in the significant features of the VTAM subsystem that are demonstrated are the following:

Network Definition Module (NDM) processing using the Network Definition Language.

DAS MR Assembler VTAM Macro capability.

Terminal Control Module (TCM) processing.

Communications Controller Module processing (as a subset of TCM processing).

Buffer Management using memory allocation routines.

Network Control Module processing.

1.3 HARDWARE CONFIGURATION

The modular organization of VTAM allows its use with a wide variety of configurations depending upon the level at which the user interfaces with the system.

In addition to at least the minimum VORTEX configuration requirements (as described in Varian Software Configuration), the following data communication equipment is required:

a. 520x Data Communication Multiplexor (DCM)
b. 5303 Line Adapter Module
c. Teletype (or compatible) terminal (assigned to line 014)

A teletype (or compatible) terminal is selected as the test vehicle in order to test VTAM at the full TCM level of capability.

1.4 BIBLIOGRAPHY

The following Varian manuals are pertinent to the use of VTAM:

Title	Document Number
VTAM Reference Manual	98 A 9952 22x
73 Systems Handbook	98 A 9906 01x
620-100 Computer Handbook	98 A 9905 00x
VORTEX Reference Manual	98 A 9952 10x
DCM Reference Manual	98 A 9902 250

Additional technical information is contained in the Software Performance Specification 89A0240 (Overview and External) and 89A0263 (Internal).

SECTION 2
DESCRIPTION

2.1 GENERAL

The VTAM Customer Acceptance Test program is prepared in the form of a VORTEX background job process control job stream. It is made available in either card, magnetic tape or paper tape media, consistant with the specific hardware configuration requirements.

The job stream is designed to be as self completing as practical, requiring minimum demands for user intervention during its execution. The programming materials within the job stream are presented as source image statements and are assembled (or compiled) as part of the ATP, so that the operating environment is more realistically simulated.

The ATP job stream is designed to be one contiguous sequence of tests, and must be executed through to completion. Certain tests presume the results of previous tests and an attempt of violation of these sequences may produce undesired results or error conditions.

The ATP is divided into six (6) tests, the function and description of each test is outlined in the following paragraphs.

A complete detailed listing of the entire VTAM ATP job stream is shown in section 4.4. It is provided for general information only.

2.2 TEST 1, NETWORK DEFINITION MODULE

The Network Definition Module is tested by executing representative statements in the Varian Network Definition Language. All three types of statements (LINE, TERMINAL, END) are tested.

The test verifies that the NDL processor builds proper line and terminal blocks in its files in the foreground library on the system file. A job stream defining a communications network is input to the NDL processor, which builds appropriate control blocks on the system file and outputs a listing of the control blocks generated. This output may be checked against a list of expected output for correctness.

2.3 TEST 2, NETWORK CONTROL MODULE

The Network Control Module provides the user online control over the status of the network. The ATP tests NCM capabilities by permitting the scheduling of the Module and executing a series of statements. By periodically performing an NCM LIST statement, the results may be validated.

2.4 TEST 3, JCP OPEN/CLOSE DIRECTIVES

The OPEN/CLOSE Job Control Directives are tested by opening the assigned communications terminal as the List Output (LO) device and causing JCL comment statements to be output to it. The terminal is then closed, causing no more output to be listed.

2.5 TEST 4, FORTRAN OPEN/CLOSE STATEMENTS

A Fortran source program is compiled and executed which undergoes a series of opens and writes, followed by a close. The printed output to the communications terminal is the decimal status word at each output occurrence.

2.6 TEST 5, MEMORY ALLOCATION MODULE

The memory allocation module is tested by building an allocation table, and causing various memory allocation/deallocation requests to be made. Both valid and abnormal (or error) conditions are provoked and checked for proper response.

Specifically the ATP builds a memory pool, allocates until all blocks of a specified size are consumed; then deallocates a block; then tries to deallocate too large a block for the pool; then tries to build a memory allocation table when the pool isn't big enough. Successful execution will be indicated by a series of output messages so indicating.

2.7 TEST 6, TERMINAL CONTROL MODULE (TCM)/COMMUNICATION CONTROL MODULE (CCM)

The overall functioning of the TCM and, consequently, the CCM, is demonstrated in this test. A DAS MR program is assembled and executed. This program exercises the OPEN, CLOSE, READ, WRITE, and STAT macros in the TCM. The program places the system in a conversational mode whereby messages may be exchanged with the terminal.

SECTION 3
OPERATING PROCEDURE

3.1 VORTEX SYSTEM GENERATION REQUIREMENTS

When performing the VORTEX system generation, it is necessary to include certain additional directives which perform the role of identifying data communication hardware parameters and causing the loading of certain ancillary VTAM system modules.

The following directives must be changed/added:

MRY,0x4777,0200	This directive must point to at least one (1) memory location 075000. the LCW points to, common.
EQP,MX0A,xxx,1,0,0	xxx is the device address of the DCM. Multiple DCM's would appear as MX1A, MX2A, etc.
EQP,TCnA,00,1,0,0	This defines the TCM, where n is a single numeric character. Each TCM must have an EQP directive.
ASN,YYY=MX00 ASN,ZZZ=TC00	The DCM and each TCM must be assigned to a logical unit number (1 through 100 or 107 through 255). For the VTAM ATP this will be 182 for the DCM and 184 for the TCM.
PIM,0x0,C52LIP,0,1 PIM,0x1,C52LIP,1,1 PIM,0x2,C52LIP,2,1 PIM,0x3,C52LIP,4,1 PIM,0x4,C52LIP,3,1 PIM,0x5,C52CIH,5,1	These are the PIM assignments for the DCM, where x is determined by which low core memory block the DCM is wired into. For the VTAM ATP this will be memory location 0260, corresponding to PIM,070, etc.
ADD,TIDBER ADD,V$IOC	These directives are necessary to load the TDF cards and the ancillary routines for the CCM and TCM.

3.2 ATP JOB STREAM EXECUTION

The VORTEX operating system must be operational and in a state receptive to executing the VTAM ATP job stream. The jobstream presumes an online and functioning of the OC, SI, LO, PI, and GO assigned devices.

The VTAM ATP job stream media is readied on the applicable device and the following typed in on the OC device:

/ASSIGN, SI=xx C/R

Where xx is the job stream media device.

The sequence of ATP tests will now be executed. Certain tests require keyboard input from the operator, and this is indicated both in this operational procedure and in the OC device output text.

3.2.1 Test 1, Network Definition Module

Instructions for the execution of this test will be output on the OC device. Following the /FINI printout on the OC device, the operator must respond through the OC device keyboard with the following statements:

```
/ASSIGN,PI=SI
/ASSIGN,SI=OC
/LOAD,NDM
LINE0:ADDRESS=0XX,
PARITY=EVEN,
SPEED=10,
ECHO=TRUE.
TERMINAL ONE: UNIT=182.
END.
```

Upon entering the END. an output will be produced on the LO device as shown in section 4.2, Figure 4.2.1.

The operator must now enter the following on the OC device:

/ASIGN,SI=XX Where XX is the job stream device.

This will result in the following on both the LO and OC devices:

```
/ENDJOB
/C, END OF VTAM ATP TEST 1
```

3.2.2 Test 2, Network Control Module

Following the /FINI printout on the OC device, the operator must respond through the OC device keyboard with the following statements:

```
;SCHED,NCM,10,FL,F  C/R
DOWN,182,0. C/R
DOWN,ONE. C/R
LIST,182,0. C/R
LIST,ONE. C/R
LIST. C/R
UP,182,0. C/R
UP,ONE. C/R
LIST,182,0. C/R
LIST,ONE. C/R
LIST. C/R
END. C/R
/ASSIGN,SI=xx C/R
```

Where xx is the ATP job stream device.

The successful execution of this test will produce input and response printout on the OC device as shown in section 4.1, Figure 4.1.2 and on the LO device as shown in section 4.2, Figure 4.2.2.

3.2.3 Test 3, JCP OPEN/CLOSE Directives

This test is self-completing, requiring no operator intervention.

Its successful execution produces an output on the communications terminal as shown in section 4.3, Figure 4.3.1, on the OC device as shown in section 4.1, Figure 4.1.3, and on the LO device as shown in section 4.2, Figure 4.2.3.

3.2.4 Test 4, FORTRAN OPEN/CLOSE Statements

This test is self-completing, requiring no operator intervention.

Its successful execution produces an output on the communications terminal as shown in section 4.3, Figure 4.3.2, LO device as shown in section 4.2, Figure 4.2.4, and on the OC device as shown in section 4.1, Figure 4.1.4.

3.2.5 Test 5, Memory Allocation Modules

Following the /FINI printout on the OC device, the operator must respond though the OC device keyboard with the following statement.

;SCHED,MEM,10,FL,F C/R

The test then proceeds to execute to completion. Its successful execution produces an output on the LO device as shown in section 4.2, Figure 4.2.5 and on the OC device as shown in section 4.1, Figure 4.1.5.

3.2.6 Test 6, Terminal Control Module/Communications Control Module

The initial execution of this test causes a message to be output to the communications terminal as shown in section 4.3, Figure 3. The operator must input any desired response on the communications terminal keyboard. This response must be of the form:

(sp)xxxx (C/R)

Where sp is a space,
xxxx is any message of less than 80 characters in length, terminated by a carriage return.

This message will be transmitted to the OPCOM device. On the OPCOM device, the following message will be displayed:

TRANSMIT TO TERMINAL

Any message, of the same format as above, may now be entered on the OPCOM device. This message will be transmitted to the terminal. The terminal will display the message, and than enter the READ mode. At this time, another message may be entered as above, or the test may be terminated by entering the message "OF" c/r on the terminal. If the "OF" message is entered, the following printout will occur on the OPCOM device:

/C,END OF VTAM ATP TEST 6
/ENDJOB
/C,END OF VTAM ATP
/FINI

Reference printouts for the OC device in section 4.1, Figure 4.1.6, for the LO device in section 4.2, Figure 4.2.6, and for the communications terminal in section 4.3, Figure 4.3.3.

SECTION 4
RESULTANT OUTPUT LISTINGS

4.1 OPERATOR COMMUNICATIONS (OC) DEVICE OUTPUT

```
/ASSIGN,SI,CR


  /JOB,VTAMATP1
  /C, VTAM ATP TEST 1
  /C, TEST OF THE NETWORK DEFINITION MODULE ( NDM)
  /C, ENTER THE FOLLOWING NDL DIRECTIVES ON THE OPCOM DEVICE:
  /C,     /ASSIGN,PI=SI
  /C,     /ASSIGN,SI=OC
  /C,     /LOAD,NDM
  /C,     LINE0: ADDRESS=0XX, C/R  WHERE 0XX IS THE PHYSICAL LINE ADDRESS
  /C,     PARITY=EVEN, C/R
  /C,     SPEED=10, C/R
  /C,     ECHO=TRUE. C/R
  /C,     TERMINAL ONE: UNIT=182. C/R
  /C,     END.
  /C,     /ASSIGN,SI=XX  WHERE XX IS THE JOB STREAM DEVICE
  /FINI
/ASSIGN,PI=SI
  JC**
/ASSIGN,SI=OC
  JC**
/LOAD,NDM
LINE0: ADDRESS=004,
PARITY=EVEN,
SPEED=10,
ECHO=TRUE.
TERMINAL ONE: UNIT=182.
END.
  JC**
/ASSIGN,SI=CR
  /ENDJOB
  /C, END OF VTAM ATP TEST  1
```

FIGURE 4.1.1 VTAM ATP TEST 1

OUTPUT LISTING TO THE OC DEVICE

```
/JOB,VTAMATP2
/C,VTAM ATP TEST 2
/C,TEST OF THE NETWORK CONTROL MODULE ( NCM )
/C,  THE FOLLOWING STATEMENTS ARE TO BE INPUT
/C,  ON THE OC DEVICE:
/C,   ;SCHED,NCM,10,FL,F  C/R
/C,      DOWN,182,0.      C/R
/C,      DOWN,ONE.        C/R
/C,      LIST,182,0.      C/R
/C,      LIST,ONE.        C/R
/C,      LIST.            C/R
/C,      UP,182,0.        C/R
/C.      UP.ONE.          C/R
```

FIGURE 4.1.2 VTAM ATP TEST 2

OUTPUT LISTING TO THE OC DEVICE

```
   /C,     LIST,182,0.          C/R
   /C,     LIST,ONE.            C/R
   /C,     LIST.                C/R
   /C,     END.                 C/R
   /C,  /ASSIGN,SI,XX C/R   WHERE XX IS THE JOB STREAM DEVICE
   /FINI
;SCHED,NCM,10,FL,F
   NCM**
DOWN,182,0.
   LINE  0000  DOWN
   NCM**
DOWN,ONE.
   TUID  ONE   DOWN
   NCM**
LIST,182,0.
   LINE  0000 P0014  DOWN  CLOSED
   NCM**
LIST,ONE.
   TUID  ONE  T0000  DOWN  CLOSED
   NCM**
LIST.
   LINE  0000 P0014  DOWN  CLOSED
   TUID  ONE  T0000  DOWN  CLOSED
   NCM**
UP,182,0.
   LINE  0000  UP
   NCM**
UP,ONE.
   TUID  ONE   UP
   NCM**
LIST,182,0.
   LINE  0000 P0014  UP    CLOSED
   NCM**
LIST,ONE.
   TUID  ONE  T0000  UP    CLOSED
   NCM**
LIST.
   LINE  0000 P0014  UP    CLOSED
   TUID  ONE  T0000  UP    CLOSED
   NCM**
END.
/ASSIGN,SI,CR
   /C, END OF VTAM ATP TEST 2
```

FIGURE 4.1.2 (CONTINUED)

OUTPUT LISTING TO THE OC DEVICE

```
/JOB,VTAMATP3
/C, VTAM ATP TEST 3
/C, TEST JCP OPEN/CLOSE LINE/TERMINAL DIRECTIVES
/OPEN,LO,ONE,184
/C,  JCP OPEN/CLOSE TEST
/C, THESE STATEMENTS SHOULD BE
/C, PRINTING ON THE TERMINAL
/C, VERIFY THAT THEY ARE.
/CLOSE,LO,ONE
/C, END OF VTAM ATP TEST 3
/ENDJOB
```

FIGURE 4.1.3 VTAM ATP TEST 3

OUTPUT LISTING TO THE OC DEVICE

```
/JOB,VTAMATP4
/C, VTAM ATP TEST 4
/C, TEST FORTRAN TU OPEN/CLOSE
/FORT,B,L,N,M
/LMGEN,M
/EXEC
/C, END OF VTAM ATP TEST  4
/ENDJOB
```

FIGURE 4.1.4 VTAM ATP TEST 4

OUTPUT LISTING TO THE OC DEVICE

```
   /JOB,VTAMATP5
   /C, VTAM ATP TEST 5
   /C, TEST OF MEMORY ALLOCATION MODULES
   /ASSIGN,LO=DUM
   /DASMR,L,B,N,M
   /LMGEN
   /ENDJOB
   /C,ENTER THE FOLLOWING ON THE OPCOM DEVICE:
   /C,
   /C,   ;SCHED,MEM,1O,FL,F
   /C,     /ASSIGN,SI=XX       WHERE XX IS THE INPUT JOBSTREAM DEVICE
   /ASSIGN,SI=OC
   JC**
;SCHED,MEM,1O,FL,F
/ASSIGN,SI,CR
   /FMAIN
/C, END OF VTAM ATP TEST 5
/ENDJOB
```

FIGURE 4.1.5 VTAM ATP TEST 5

OUTPUT LISTING TO THE OC DEVICE

```
/JOB,VTAMATP6
/C, VTAM ATP TEST 6
/C, TEST OF TCM/CCM MODULES
/DASMR,B,L,M,N
/LMGEN,M
/EXEC

(USER MESSAGE)




/C, END OF VTAM ATP TEST 6
/ENDJOB
/C, END OF VTAM ATP
/FINI
```

FIGURE 4.1.6 VTAM ATP TEST 6

OUTPUT LISTING TO THE OC DEVICE

4.2 LIST OUTPUT (LO) DEVICE OUTPUT

```
/ASSIGN,SI,CR


/JOB,VTAMATP1
/C, VTAM ATP TEST 1
/C, TEST OF THE NETWORK DEFINITION MODULE ( NDM)
/C, ENTER THE FOLLOWING NDL DIRECTIVES ON THE OPCOM DEVICE:
/C,     /ASSIGN,PI=SI
/C,     /ASSIGN,SI=OC
/C,     /LOAD,NDM
/C,     LINE0: ADDRESS=0XX, C/R  WHERE 0XX IS THE PHYSICAL LINE ADDRESS
/C,     PARITY=EVEN, C/R
/C,     SPEED=10, C/R
/C,     ECHO=TRUE, C/R
/C,     TERMINAL ONE: UNIT=182, C/R
/C,     END.
/C,     /ASSIGN,SI=XX  WHERE XX IS THE JOB STREAM DEVICE
/FINI
/ASSIGN,PI=SI
/ASSIGN,SI=OC
/LOAD,NDM


PAGE     1              VTAMATP1  VORTEX  VTAM  NDL                  228 HOURS

LINE0: ADDRESS=004,
PARITY=EVEN,
SPEED=10,
ECHO=TRUE,
TERMINAL ONE: UNIT=182,
END.


PAGE     2              VTAMATP1  VORTEX  VTAM  NDL                  229 HOURS


LSD    0
     0 0 1 0 0 0 0 0 1 1 0 0 1 0 0 0
     1 0 0 0 1 0 1 0 1 0 0 0 1 1 0 1
     1 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0
     0 0 0 0 0 0 0 0 1 0 0 1 0 1 1 0
     0 0 0 0 0 0 0 0 1 0 0 1 0 1 1 0
```

FIGURE 4.2.1 VTAM ATP TEST 1

OUTPUT LISTING TO THE LO DEVICE

```
TIB ONE
    0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
PCD ONE
    0 0 0 0 0 0 0 0 1 0 1 1 0 1 1 0
    0 0 0 0 0 0 0 0 1 0 0 0 0 1 1 1
    0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
    0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
    0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
/ASSIGN,SI=CR
/ENDJOB
/C, END OF VTAM ATP TEST  1
```

FIGURE 4.2.1 (CONTINUED)

OUTPUT LISTING TO THE LO DEVICE

```
/JOB,VTAMATP2
/C,VTAM ATP TEST 2
/C,TEST OF THE NETWORK CONTROL MODULE ( NCM )
/C, THE FOLLOWING STATEMENTS ARE TO BE INPUT
/C, ON THE UC DEVICE:
/C,  ;SCHED,NCM,10,FL,F C/R
/C,     DOWN,182,0.      C/R
/C,     DOWN,ONE.        C/R
/C,     LIST,182,0.      C/R
/C,     LIST,ONE.        C/R
/C,     LIST.            C/R
/C,     UP,182,0.        C/R
/C,     UP,ONE.          C/R
/C,     LIST,182,0.      C/R
/C,     LIST,ONE.        C/R
/C,     LIST.            C/R
/C,     END.             C/R
/C,  /ASSIGN,SI,XX C/R   WHERE XX IS THE JOB STREAM DEVICE
/PRINT
/ASSIGN,SI,CR
/C, END OF VTAM ATP TEST 2
```

FIGURE 4.2.2 VTAM ATP TEST 2

OUTPUT LISTING TO THE LO DEVICE

```
/JOB,VTAMATP3
/C, VTAM ATP TEST 3
/C, TEST JCP OPEN/CLOSE LINE/TERMINAL DIRECTIVES
/OPEN,LU,ONE,184
/C, END OF VTAM ATP TEST 3
/ENDJOB
```

FIGURE 4.2.3 VTAM ATP TEST 3

OUTPUT LISTING TO THE LO DEVICE

```
/JOB,VTAMATP4
/C, VTAM ATP TEST 4
/C, TEST FORTRAN TO OPEN/CLOSE
/FORT,B,L,N,M
/LMGEN,M



PAGE     1                VTAMATP4  VORTEX  LMGEN


 TIDB,UPE,1,0
 LO,GO,,GO
 LIB
 END
 /EXEC
      STATUS        0
      STATUS        3
 /C. END OF VTAM ATP TEST  4
 /ENDJOB
```

FIGURE 4.2.4 VTAM ATP TEST 4
OUTPUT LISTING TO THE LO DEVICE

```
/JOB,VTAMATP5
/C, VTAM ATP TEST 5
/C, TEST OF MEMORY ALLOCATION MODULES
/ASSIGN,LO=OUM
/C,ENTER THE FOLLOWING ON THE OPCOM DEVICE:
/C,
/C,   ;SCHED,MEM,10,FL,F
/C,     /ASSIGN,SI=XX        WHERE XX IS THE INPUT JOBSTREAM DEVICE
/ASSIGN,SI=OC
TEST 1 OK
TEST 2 OK
TEST 3 OK
TEST 4 OK
TEST 5 OK
TEST 6 OK
TEST 7 OK
TEST 8 OK
/ASSIGN,SI,CR
/FMAIN

PAGE     1                                VORTEX  FMAIN

 DELETE,FL,F,MEM

 DELETE LISTING FOR LUN  FL

 FILE NAME   START      END CURRENT

 MEM            204      211      211

 /C, END OF VTAM ATP TEST 5
 /ENDJOB
```

FIGURE 4.2.5 VTAM ATP TEST 5

OUTPUT LISTING TO THE LO DEVICE

```
/JOB,VTAMATP6
/C, VTAM ATP TEST 6
/C, TEST OF TCM/CCM MODULES
/JASMR,B,L,M,N

/LMGEN,M


PAGE     1                    VTAMATP6  VORTEX  LMGEN


 T10b,CON,1,0
 LO,60,,60
 LIB
 END
 /EXEC
 /C, END OF VTAM ATP TEST 6
 /ENDJOB
 /C, END OF VTAM ATP
 /FINI
```

FIGURE 4.2.6 VTAM ATP TEST 6
OUTPUT LISTING TO THE LO DEVICE

4.3 COMMUNICATIONS TERMINAL DEVICE OUTPUT

```
/C,  JCP OPEN/CLOSE TEST
/C, THESE STATEMENTS SHOULD BE
/C, PRINTING ON THE TERMINAL
/C, VERIFY THAT THEY ARE.
/CLOSE,LO,ONE
```

FIGURE 4.3.1 VTAM ATP TEST 3

OUTPUT LISTING TO THE TCM DEVICE

```
STATUS      0
STATUS      4
```

FIGURE 4.3.2 VTAM ATP TEST 4

OUTPUT LISTING TO THE TCM DEVICE

```
VTAM COMMUNICATIONS DEMONSTRATION
ENTER A MESSAGE ON THIS TERMINAL
AND IT WILL BE TRANSMITTED TO THE
OPCOM DEVICE

(USER MESSAGE)

* CP
```

FIGURE 4.3.3 VTAM ATP TEST 6

OUTPUT LISTING TO THE TCM DEVICE

4.4 ATP JOB STREAM LISTING

```
/JOB,VTAMATP1
/C,  VTAM ATP TEST 1
/C,  TEST OF THE NETWORK DEFINITION MODULE ( NDM)
/C,  ENTER THE FOLLOWING NDL DIRECTIVES ON THE OPCOM DEVICE:
/C,      /ASSIGN,PI=SI
/C,      /ASSIGN,SI=OC
/C,      /LOAD,NDM
/C,      LINE0: ADDRESS=0YX, C/R  WHERE 0XX IS THE PHYSICAL LINE ADDRESS
/C,      PARITY=EVEN, C/R
/C,      SPEED=10, C/R
/C,      ECHO=TRUE. C/R
/C,      TERMINAL ONE: UNIT=182. C/R
/C,      END.
/C,      /ASSIGN,SI=XX  WHERE XX IS THE JOB STREAM DEVICE
/FINI
/ENDJOB
/C, END OF VTAM ATP TEST  1
/JOB,VTAMATP2
/C,VTAM ATP TEST 2
/C,TEST OF THE NETWORK CONTROL MODULE ( NCM )
/C,  THE FOLLOWING STATEMENTS ARE TO BE INPUT
/C,  ON THE UC DEVICE:
/C,   ;SCHED,NCM,10,FL,F C/R
/C,      DOWN,182,0.      C/R
/C,      DOWN,ONE.        C/R
/C,      LIST,182,0.      C/R
/C,      LIST,ONE.        C/R
/C,      LIST.            C/R
/C,      UP,182,0.        C/R
/C,      UP,ONE.          C/R
/C,      LIST,182,0.      C/R
/C,      LIST,ONE.        C/R
/C,      LIST.            C/R
/C,      END.             C/R
/C,   /ASSIGN,SI,XX C/R  WHERE XX IS THE JOB STREAM DEVICE
/FINI
/C, END OF VTAM ATP TEST 2
/JOB,VTAMATP3
/C, VTAM ATP TEST 3
/C, TEST JCP OPEN/CLOSE LINE/TERMINAL DIRECTIVES
/OPEN,LU,ONE,184
/C,  JCP OPEN/CLOSE TEST
/C, THESE STATEMENTS SHOULD BE
/C, PRINTING ON THE TERMINAL
/C, VERIFY THAT THEY ARE.
/CLOSE,LU,ONE
/C, END OF VTAM ATP TEST 3
/ENDJOB
/JOB,VTAMATP4
/C, VTAM ATP TEST 4
/C, TEST FORTRAN TO OPEN/CLOSE
/FORT,B,L,N,M
      DIMENSION ITUID(3)
```

```
      DATA ITUID(1),ITUID(2)/2HUN,2HF /
      ISTAT=0
      CALL VTSOPN(ITUID,183,ISTAT)
      WRITE(183,101) ISTAT
C      STATUS  0  (TERMINAL)
      CALL VTSOPN(ITUID,183,ISTAT)
      WRITE(183,101) ISTAT
C      STATUS  4  (TERMINAL)
      CALL VTSCLS(ITUID,183,ISTAT)
      WRITE(5,101) ISTAT
C      STATUS  0  (LO)
      CALL VTSCLS(ITUID,183,ISTAT)
      WRITE(5,101) ISTAT
C      STATUS  3  (LO)
101   FORMAT(5X,7H STATUS,I7)
      CALL EXIT
      END
/LMGEN,M
TIDB,DPE,1,0
LU,GO,,GO
LIB
END
/EXEC
/C, END OF VTAM ATP TEST  4
/ENDJOB
/JOB,VTAMATP5
/C, VTAM ATP TEST 5
/C, TEST OF MEMORY ALLOCATION MODULES
/ASSIGN,LU=UUM
/UASMR,L,B,N,M
GETMEM MAC
       M2
       EXT     VTSGTM
       DATA    0600,VTSGTM
       EMAC
PUTMEM MAC
       M2
       EXT     VTSPTM
       DATA    0600,VTSPTM
       EMAC
BLDMAT MAC
       M2
       EXT     VTSBMT
       DATA    0600,VTSBMT
       EMAC
X      EQU     1
B      EQU     2
START  LOBL    MEMBUF
       LDAI    10
       STA     0,B
       LDAI    3
```

```
        STA     1,6
        LDAI    20
        STA     2,6
        LDAI    4
        STA     3,6
        TZA
        STA     4,6
        LDAI    115
        BLUMAT
        JAZ     TESTA
        WRITE   OUTDCB,5
TESTA   LDAI    10
        LDBI    MEMBUF
        GETMEM
        INR     OUTB+3
        JAZ     TESTB
        WRITE   OUTDCB,5
TESTB   LDAI    10
        LDBI    MEMBUF
        GETMEM
        INR     OUTB+3
        JAZ     TESTC
        WRITE   OUTDCB,5
TESTC   LDAI    10
        LDBI    MEMBUF
        GETMEM
        STA     SAVAD
        INR     OUTB+3
        JAZ     TESTD
        WRITE   OUTDCB,5
TESTD   LDAI    10
        LDBI    MEMBUF
        GETMEM
        INR     OUTB+3
        JANZ    TESTE
        WRITE   OUTDCB,5
TESTF   LDB     SAVAD
        LDAI    10
        STA     0,6
        LDAI    MEMBUF
        PUTMEM
        INR     OUTB+3
        JANZ    TESTF
        WRITE   OUTDCB,5
TESTF   LDB     SAVAD
        LDAI    25
        STA     0,6
        LDAI    MEMBUF
        PUTMEM
        JAZ     TESTG
        INR     OUTB+3
```

```
         WRITE   OUTDCB,5
TESTG    LDBI    MEMBUF
         LDAI    3
         STA     1,B
         LDAI    4
         STA     3,B
         LDAI    114
         BLUMAT
         JANZ    TESTH
         INR     OUTB+3
         WRITE   OUTDCB,5
TESTH    EXIT
OUTDCB   DCB     6,OUTB
OUTB     DATA    '  ','TE','ST',' 1',' O','K '
SAVAD    DATA    0
MEMBUF   BSS     120
         END     START
/LMGEN
TIDE,MEM,2,0
LO,GO,,GO
LIB
END,FL,F
/ENDJOB
/C,ENTER THE FOLLOWING ON THE OPCOM DEVICE:
/C,
/C,   ;SCHED,MEM,10,FL,F
/C,     /ASSIGN,SI=XX       WHERE XX IS THE INPUT JOBSTREAM DEVICE
/ASSIGN,SI=DC
/FMAIN
DELETE,FL,F,MEM
/C, END OF VTAM ATP TEST 5
/ENDJOB
/JOB,VTAMATP6
/C, VTAM ATP TEST 6
/C, TEST OF TCM/CCM MODULES
/DASMR,B,L,N,N
         NAME    TEST21
X        SET     1
B        SET     2
LUN      EQU     184
LUGLM    EQU     0
SYSOUT   EQU     2
OPCOM    EQU     1
REC2     EQU     12
RECL     EQU     80
TEST21   EQU     *
*
L1       OPEN    OPLCB,LUN,0,0
         STAT    L1,ERR,ERR,ERR,ERR
         WRITE   WLCB,LUN,0,1
         WRITE   WLCB1,LUN,0,1
```

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```
         WRITE   WLCB2,LUN,0,1
         WRITE   WLCB3,LUN,0,1
R1       READ    RLCB,LUN,,1
*
R2       STAT    R1,ER1,ER2,R1,R2
*
         LDA     BUFF1
         SRE     ENDP,7,010      IS IT THE END?
         JMP     R3              NO
R5       CLOSE   DPLCB,LUN,0,0   YES
         EXIT
*
R3       WRITE   WDCB,OPCOM,,1   WRITE TO OPCOM
         WRITE   WDCB1,OPCOM,,1
*
         READ    OPDCB,OPCOM,,1  READ FROM OPCOM
         LDA     BUF3
         SRE     ENDP,7,010      IS THE END?
         JMP     R4              NO
         JMP     R5              YES
*
R4       WRITE   WRLCB,LUN       XMIT THE OPCOM MESSAGE TO THE TERMINAL
*
         JMP     R1              GO BACK AND READ THE TERMINAL
*
ER1      WRITE   W2LCB,LUN       POST ERROR MESSAGE ON TERMINAL
         JMP     R1              I/O ERROR
*
ER2      WRITE   W3LCB,LUN       DATA SET READY ERROR
         SUSPND
ERR      WRITE   ERRD,LUN,0,1
         EXIT
*
*
*              DATA CONTROL BLOCKS
*
*
DPLCB    DCB     'ON','E '
WLCB     DATA    18,MSG1,LOGLN
WLCB1    DATA    17,MSG5,LOGLN
WLCB2    DATA    17,MSG6,LOGLN
WLCB3    DATA    7,MSG7,LOGLN
RLCB     DATA    RECL,BUFF1,LOGLN
ENLCB    DATA    0,0,LOGLN
ERRD     DCB     3,ERRM,0
ERRM     DATA    ' E','RR','OR'
RDCB     DCB     RECL,BUFF1
RDCB1    DCB     REC2,MSG2
OPDCB    DCB     RECL,BUF3
WRLCB    DATA    RECL,BUF3,LOGLN
W2LCB    DATA    6,MSG3,LOGLN
```

```
MSLLR   DATA    12,MSG4,LOGLN
BUFF1   BSS     80
ENDF    DATA    'DF'
MSG2    DATA    ' TRANSMIT TO TERMINAL',0105215
MSG1    DATA    0105215,' VTAM COMMUNICATIONS DEMONSTRATION'
MSG5    DATA    ' ENTER A MESSAGE ON THIS TERMINAL'
MSG6    DATA    ' AND IT WILL BE TRANSMITTED TO THE'
MSG7    DATA    ' UPCOM DEVICE',0105215
MSG3    DATA    'I/O ERROR'
MSG4    DATA    'DATA SET READY ERROR'
BUF3    BSS     80
        END     L1
/LMGEN,M
TIDB,CON,1,0
LU,60,,60
LIB
END
/EXEC
/C, END OF VTAM ATP TEST 6
/ENDJOB
/C, END OF VTAM ATP
/FINI
/FINI
```