STANDARD OPERATING ENVIRONMENT

"UNIX*" OPERATING SYSTEM

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1. GENERAL

1.01 This Bell System Practice (BSP) describes the Standard Operating Environment (SOE) for computers utilizing the UNIX Operating System. The SOE functions as an interface between the users of centrally developed systems (generally the Bell Operating Companies [BOCs]) and the designers of the systems. The existence of a standard interface lowers the cost of designing, installing, and maintaining centrally developed systems, thus encouraging their wider acceptance and use.

1.02 This BSP is issued under authority of the System Rules Committee (SRC). Whenever this section is reissued, the reason(s) for reissue will be given in this paragraph.

1.03 This BSP is issued as a standard. It is designed for use by developers within the Bell system, outside vendors, and users of centrally developed systems when all of the following conditions apply.

(a) The system is designed to use the UNIX Operating System. Systems which require features or capabilities not available in the UNIX Operating System, such as full-scale transaction processing (eg, data-base recovery, message recovery, transaction performance monitoring), are exempted. However, the developers of such systems are encouraged to build upon the applicable portions of the UNIX System.

(b) The system is developed to be operated by a BOC in its local environment or by several BOCs in a regional environment.

1.04 This BSP is not binding on project groups which have completed preliminary design before the instruction's publication date. It is intended, however, that major redesigns of existing systems (ie, changes to the system architecture or operating system software) comply with this SOE where possible. Normal generic releases of existing systems are excluded.

1.05 The long range objective is to separate the UNIX Operating System from application code. This will ease the transition to new releases of the operating system for both the developers and the users and allow the applications to upgrade to the current release specified in the SOE. However, in the interim, existing applications which have integrated the operating system with the application will continue as the sole source of support and will be exempt from SOE migration strategies.

1.06 Application systems developed in compliance with this BSP will not be required to conform to the International Telegraph and Telephone Consultive Committee (CCITT) Man Machine Language Standard until it is adopted by the UNIX Operating System.

1.07 The System Rules Committee will notify the BOCs and the development organizations prior to a change in the Standard Operating Environment. The lead time for this notification and the transition interval (ie, the period with both the old and new product are included in the SOE) will be a

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function of the impact of the change and the upward compatibility of the software. When the SOE is applicable, all centrally maintained systems will function in that environment.

2. EFFECTIVE DATE

2.01 The effective date for this BSP is June 1, 1983.

3. SOFTWARE ENVIRONMENT

3.01 The software portion of the SOE includes Release 5 of the UNIX Operating System.

3.02 Language Capabilities:

- C Programming Language (Occ or cc version)
- FORTRAN 77 and RATFOR
- Shell (Command Language Interpreter)
- AWK (Report Generator Language).

4. HARDWARE ENVIRONMENT

4.01 The hardware environment for systems utilizing the UNIX Operating System is listed in the following paragraphs. Central developers may select from the optional models listed. Equivalent plug compatible devices may be used; however, the user must ensure plug compatibility.

4.02 Western Electric:

a. Central Processing Unit: 3B20 Simplex (J1C165A-1, List 1) with time-of-day clock, 2MB of memory (minimum)

b. Disk Storage Devices:

- 300MB moving head disk (J1C165A-1, List 2, 3, 220, or 221)
- 675MB moving head disk (J1C165A-1, List 222 or 223).

c. Magnetic Tapes: Nine-channel, 1600 BPI (J1C165A-1, List 29)

d. Unit Record Devices: None specified at this time

e. Asynchronous and Synchronous interfaces:

- TN4 (J1C165A-1, List 100) Asynchronous Interface
- TN74 (J1C165A-1, List 19) Asynchronous Interface
- TN75 (J1C165A-1, List 20) BX.25 Synchronous Interface
- TN82 (J16165A-1, List 21) BX.25 Synchronous Interface
- UN53/TN82 (J16165A-1, List 23) Synchronous Interface
- UN56 (J16165A-1, List 10) Automatic Call Unit Interface.

4.03 Digital Equipment Corporation (DEC):

a. VAX* Central Processing Units 11/750 and 11/780, with time-of-day clock, 1MB of memory (minimum)—floating point accelerator is optional.

b. Disk Storage Devices: RM05, RP07, RM80 moving-head disks

c. Magnetic Tapes: TE16, TU77, TU78 9-channel, 800, 1600, or 6250 BPI

d. Unit Record Devices: None specified at this time

e. Asynchronous and Synchronous Interfaces:

- KMC11-B with DZ11 for Asynchronous Lines
- KMC11-B with DMC11-DA, -FA or -FD line units for a Synchronous Line
- KMC11-B with DMS11-DA (also known as KMS11) for multiple Synchronous Lines
- DZ11 for Asynchronous Lines.

5. DATA COMMUNICATIONS ENVIRONMENT

5.01 The data communications environment (ie, terminal and network protocols) is a subset of the environment specified in Section 007-400-100,

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Standard Operating Environment — Data Communications. The UNIX System limitations to the Data Communications SOE are listed in the following paragraphs.

5.02 ***Terminal to Application Message Communications:*** All messages which are transmitted from an application to a terminal must use one of the following protocols:

(a) Switched Dial-Up Terminal Protocol—DATASPEED* terminal set 40/2

(b) Private Line Terminal Protocol—DATASPEED terminal set 40/4 Binary Synchronous Control.

* Registered trademark of American Telephone and Telegraph Company.

6. DELETED OR SUPERSEDED COMPONENTS

6.01 Whenever a component is delected or superseded, it will be listed in this paragraph.