Forest Service Handbook
National Headquarters - Washington Office
Washington, DC

Forest Service Handbook 6609.11 – System Management Handbook
Chapter 30 – System Standards and Conventions

Amendment: 6609.11-1991-1

Effective date: September 03, 1991

Duration: This amendment is effective until superseded or removed.

Approved by: F. Dale Robertson, Chief

Date approved:

Responsible Staff:

Last Change:

Superseded Document(s): Title Page; 00--1 thru 53; 5, April 1989; 4, July 1988

Digest: Following is an explanation of the changes throughout the directive by section.

This amendment is a reissuance of FSH 6609.11 to conform the format and structure of the Handbook to the requirements of electronic directive issuance.

This amendment makes no substantive changes to the text. The only changes made are those necessary to meet new format requirements or to correct spelling, punctuation, or unit names.

This Handbook is now available electronically in the National Information Center in the same format as the paper copy. Henceforth, amendments to this Handbook will be issued to Forest Service units electronically on a document basis.
6609.11,30

Table of Contents

31 - AOS/VS System (SYSGEN)

The system software is loaded from a set of tapes containing versions of DG products that were specifically created for the Forest Service and that incorporate Service-wide software standards. The first tape, the SYSTAPE, is in the standard Data General format and contains system files and utilities. The remaining system software is included on the PRODUCT tapes and includes additional Data General products and standard Forest Service system software and macro libraries.

Once the initial AOS/VS starter system is installed, VSGEN is used to create an AOS/VS specification file that is tailored to a site specific configuration. To streamline the tailored system generation process, default VSGEN specification files have been included. Some examples are: 20000, 15000_10, 8000, BIG4000, etc. By using the appropriate default file, only minor changes will be needed to build a custom system. Once a system has been installed, a new tailored system will only be needed when new hardware is added to the system or a new revision of AOS/VS is installed. Detailed instructions on VSGEN are in the "How to Generate and Run AOS/VS" manual.

31.1 - System Name

The AOS/VS system name shall be unique for each system. It will consist of the site's network nodename, underline, and a version/revision number such as R10F04A_7.54.00. The "version" number is the main system number for the AOS/VS operating system. The "revision" number is a locally assigned number that will distinguish it from a previous system. For example, the first SYSGEN under AOS/VS rev. 7.54 might be R10F04A_7.54.00 with the next system under the same AOS/VS revision named R10F04A_7.54.01.

31.2 - Tape Drive

To ensure maximum compatibility between systems, use a tape density of 1600 bpi and a block size of 8192 bytes. Other settings may be used; however, steps must be taken to ensure that the tapes will be able to be properly read at all sites that will perform the associated load. All tapes distributed from the Washington Office will assume that these settings are used.

31.3 - IAC

Specifications for IAC's are defined in the default VSGEN specification files. These specifications should not be changed.

31.4 - System Cache Buffer Size

See section 37, exhibit 01 for guidelines on system cache buffer sizes. The values listed are recommendations only and each site should experiment as needed. Ideally, the "cache hit

ratio" as displayed by VMON (see section 22.11), should be about 95%. Less than 95% will tend to create excessive disk I/O. Greater than 95% may reserve too much memory for system use.

31.5 - Multiple Disks

Sites with more than one disk drive must decide whether to set them up as multiple or single LDU's (Logical Disk Units). Please refer to the "How to Generate and Run AOS/VS" manual. The main advantage of having a single LDU is that the system will manage all file placement and simplify the disk management task. However, the user will be unable to balance the workload over multiple disks. Having multiple LDU's will allow more even use of all disks and better overall system performance, but macros will need to be changed accordingly and disk management will be more complex. Sites that use multiple disks will name the LDU's as follows: First disk: "D1", Second disk: "D2", Third disk: "D3", etc.

32 – CEO

Refer to FSH 1309.15 - Electronic Office Handbook.

33 - XODIAC (NETGEN)

33.1 - Node Naming

The node naming convention insures that, in conjunction with a valid username, each Forest Service employee is uniquely identified on the network. Each processor (MV/4000, MV/8000, etc.) is considered a node in the total Forest Service Distributed Processing network. Four-character identifiers are used to name Washington Office, Region and Station nodes. The first character is a letter, the next two characters are numeric, and the last is an alphabetic character (beginning with "A" and continuing sequentially) representing the system at that unit. Additional characters are added for Forests, Districts, and projects. The numeric portion of the identifier is the standard unit code except for the Washington Office, research project locations, and other special subunits. Refer to section 37, exhibit 02 when specifying the node name (NETGEN Local Host Name) for your site.

There are cases where different Forest Service organizational units are sharing machines, thereby creating dual-designated systems. These systems will have two node names. At the site's choice, one of the node names will be specified in the processor's Network Generation program (NETGEN) as the local host name. Other organizational units that communicate with this system will use NETGEN procedures to set up a Remote Host Filename for the other node name. With this done, mail directed to either of the organizational node names goes to the same system. The advantage of this is that users sending mail to individuals on the dual-designated machine do not have to be aware of the other node name. However, all mail received by outside users from this machine contain the node name specified in the remote host configuration.

33.2 - Forest Service Global Specification File

The basic purpose of the XODIAC network is to provide the capability for users at different organizational levels and locations to exchange information. The NETGEN specification file that is installed at a local host determines which remote hosts a local user can exchange information with. The Washington Office through the Forest Service software distribution process (see FSM 6623) shall maintain and distribute a NETGEN specification file. This specification file (global NETGEN spec file) shall contain the network parameters for all Forest Service Data General systems and other nodes accessed by Forest Service personnel. Units having special-purpose node requirements must obtain approval through the Washington Office Computer Sciences and Telecommunications staff. Each System Manager will ensure that the specification file is correctly modified to define the local host, site-specific link information, and any special remote host configurations.

Standard network configurations shall include:

1. Forest Service nodes including Washington Office, Regions, Forests, Districts, Stations, and Laboratories.

2. Other remote hosts that are accessible via the Telenet Call Agent (TC) and/or the File Transfer (FT) software which is part of the Retrieval Information System (RIS). TC and FT both use the Telenet X.25 link to transfer data. Sites accessed in this manner include: NCC-FC, NFC, NCC-KC (National Computer Center - Kansas City), STORET (EPA's National Computer Center), AFFIRMS, and TELEMAIL (Telenet's electronic mail service).

33.3 - Device and Link Naming

Naming and assignment conventions for devices, links, and nodenames must be followed when creating and modifying system specification files. An explanation of these parameters follows.

1. The local host name is the node name as described in section 33.1.

2. Each device name for synchronous communication is device name (underline) device number.

Example: ISC with device number 25 is ISC_25

3. Each link name is device name (underline) line (port) number (period) descriptive word (that is, TNET, DIAL, or LEASED). In all cases the TELENET link assigned to port 1 ISC 25. Port zero of the ISC may be used, as necessary, for a XODIAC dial link.

Example: ISC with device code 25, line number 1 to Telenet is ISC_25_1.TNET

4. Xodiac requires each system to have a host ID. This host ID can have a value up to 32767. The structure will be RRxxx or SSxxx, where RR is the Region number and SS is the Station number. Each Region and Station is responsible for assigning the last 3 digits so that all sites have unique host ID's. There are two recommended approaches:

a. Standard unit codes for Forest and District shall be used where digits 3 and 4 are the Forest code and digit 5 is the District code. For project locations and laboratories within Stations, these digits will be the same two identifying digits after the "L" used in the node name, and a zero. The Washington Office, Computer Centers, and detached units will use OOxxx.

b. Regions that have more than 9 Districts on a Forest may choose to assign blocks of numbers to each Forest, that is, 000 - 050 to Forest1, 051 - 100 to Forest2, and so forth.

Each Region and Station is responsible for compiling a list of their host ID's.

5. Telenet addresses have the form 3110AAANNNNNXX, where AAA is usually the same as the telephone area code, NNNNN is the rest of the TELENET address, and XX are optional codes, as explained in section 33.4

34 – FSIA

All Forest Service systems are required to install, maintain, and operate the FSIA software as mandatory system software at all times. See section 25.1. This software will be maintained by the Washington Office, CS&T staff and only the Director of this staff can alter this software. The FSIA software consists of the following modules:

AM	Access Management - All users will log on to Forest Service systems through this module.
SM	System Management - Provides tools for managing the system.
PS	People Server - Provides access to corporate information.
FS_GP_SERVER	Forest Service General Purpose Server - Provides the capability to validate passwords, log data into SYSLOG, create promise cards, and access the global variables. RIS and FT communications with DCC's are incorporated into this server.
FS_GC_SERVER	Forest Service General Console Server - Currently, only the Information Center uses this module.

IS Information Structure and Management - Provides a facility to manage non-CEO files and applications. It also provides for Distributed IS (networked AOS/VS file access) and Retrieval IS (networked file mover).

IC Information Center - Provides networked CEO file access.

See section 42 for a description of the directory structure of this software.

35 – Searchlists

For users working in IS, the current default searchlist is :PUBLIC:LIBRARY:IS, :FS, :UTIL. If :PUBLIC:LIBRARY:LOCAL is on the system, this directory will automatically be added to the default searchlist. The :PUBLIC:LIBRARY:LOCAL file may be created as a link to an existing local directory (for example, :PUBLIC:LIBRARY:LOCAL LNK :OUR_FILES). Searchlists can be augmented by setting the appropriate attributes on a drawer. The CEO system internally alters the searchlist as needed while working in CEO.

36 - Access Control Lists

System directories have an access control list (ACL) of "+,E". Macros have an ACL of "+,R". All files for which "+,E" allows adequate user access shall have the ACL's set this way.

37 - Exhibits

37 - Exhibit 01

Recommended System Cache Buffer Sizes

System Memory Size:	Suggested Buffer Size:
4MB or less	256
5-7 MB	512
8MB or more	1024

37 - Exhibit 02

Sample Nodenames

1. Chief's Office		W##A...W##B...etc.
	MV/20000 Rosslyn Plaza Bldg.	W01B
	MV/20000 South USDA Bldg.	W01C
2. Regional Offices		R##A...R##B...etc.
	Region One	R01A
	Region Five	R05A
	Region Ten	R10A
3. Forest Supervisor's Offices		R##F##A...etc.
	Deerlodge NF	R01F09A
	Sequoia NF	R05F13A
	Chugach NF	R10F04A
4. District Ranger Offices		R##F##D##A...etc.
	Butte RD	R01F09D04A
	Tulee River RD	R05F13D52A
	Juneau RD	R10F03D03A
5. Forest and Range Experiment Stations		S##A...etc.
	Pacific Northwest	S26A
	Southeastern	S29A
	Forest Products Lab	S32A
6. Project locations or labs		S##L##A...etc.
	Athens, GA	S29L01A
	Missoula, MT	S22L01A
7. Other subunits	(Special cases preceded by supervising unit nodename)	
	Detached Units in NCC-FC	W04A
	Geometronics Service Lab	W03A