

**Forest Service Handbook
National Headquarters - Washington Office
Washington, DC**

**Forest Service Handbook 6609.14 – Telecommunications Handbook
Chapter 60 - Data**

Amendment: 6609.14-1995-1

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Approved by: Jack Ward Thomas, Chief

Date approved:

Responsible Staff:

Last Change:

Superseded Document(s): 6609.14, Contents; 6609.14,0 Code Contents; 6609.14,0 Code; 6609.14,10 Contents; 6609.14,10; 6609.14,20 Contents; 6609.14,20; 6609.14,20,Ex.06; ID 6609.14-95-1; 6609.14,30 Contents; 6609.14,30; 6609.14,40 Contents; 6609.14,40; 6609.14,41.3,Ex.01; ID 6609.14-95-2; 6609.14,50 Contents; 6609.14,50; 6609.14,60 Contents; 6609.14,60; 6609.14,80 Contents; ID 6609.14-94-1; Amendment 6609.14-94-2, May 24, 1994; Amendment 6609.14-94-1, May 24, 1994; Amendment 6609.14-91-1, September 3, 1991

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

01: Incorporates authorities into FSM 6640.1 and adds cross reference to that section.

02: Incorporates objectives into FSM 6640.2 and adds cross reference to that section.

03 & 04: Establishes code for Policy and Responsibility.

05: Adds the definitions for the terms: Compressed Video Transmission Service (CVTS); Emergency; Frequency Management; Local Access Transport Area (LATA); Local Area Network (LAN); Metropolitan Area Network (MAN); T-1; Telecommunications; Ultra High Frequency (UHF); Very High Frequency (VHF); and, Wide Area Network (WAN);

Removes the definitions for the terms: Answering Device; Answering Service; Auto Dialers; Business Line; DB4; Dedicated Line; Features; Key Telephone System; Operational Plan; Pager

Service; Speakerphone; and, Subsystem. These terms were removed because they are no longer specifically addressed in this handbook.

Revises the term Radio Frequency Authorization (RFA) to Radio Frequency Assignment (RFA) and Voice Mail to Voice Processing to more accurately reflect their application.

06: Removes section on Program Management.

10.3: Removes policy direction from this section and incorporates it in FSM 6640.6-6640.62.

11: Revises caption from Strategic Plan Format to Strategic Plan.

12: Revises caption from Tactical and Operational Plan Format to Tactical Plan.

12.1: Incorporates and revises direction on guidelines (formerly found in section 13.1).

13: Revises caption from Planning to Telecommunications Systems Planning.

13.1: Revises caption from Guidelines to Radio Communications Planning.

13.12: Removes direction on voice communications planning. (This direction is incorporated into section 13.2).

13.13: Removes direction on data communications planning. (This direction is incorporated into section 13.3).

13.2: Incorporates direction on voice communications planning (formerly found in section 13.12).

13.3: Incorporates direction on data communications planning (formerly found in section 13.13).

13.4: Establishes direction on video communications planning.

13.41: Establishes direction on cost analysis.

14: Establishes section for exhibits.

20.42: Revises responsibilities of the Washington Office, Director of Information Systems and Technology to include annual delegation of technical approval authority and thresholds.

20.62: Revises technical approval levels and removes technical approval authority thresholds which has been incorporated into section 20.42.

21.1: Corrects terms in radio frequency assignments section.

22: Revises direction on voice to reflect usage of FTS2000.

22.8: Establishes direction for voice processing.

22.9: Establishes direction for shared voice services.

24: Establishes direction for video conferencing.

25: Incorporates ID 6609.14-95-1, revises exhibit numbering, and adds exhibits on documentation requirements for cost thresholds (ex. 02) and local area network (LAN) requirements (ex. 05).

30.1: Revises and updates authority references.

31: Revises caption from Forest Service Standards to Standards.

31.1: Revises caption from Data Communications to Radio Communications and adds related direction.

31.11-31.14: Establishes pertinent direction on radio communications and incorporates direction formerly provided in sections 31.21-31.24d.

31.2: Revises caption from Radio Communications Equipment to Voice Communications which is reserved for use by field offices for supplementation purposes.

31.21-31.24d: Removes codes and captions concerning radio communications equipment. This direction has been incorporated in sections 31.11-31.14.

31.3: Revises caption from Telephone Equipment to Data Communications and adds related direction.

31.4: Establishes direction on video communications.

40: Incorporates ID 6609.14-95-2.

41: Revises direction throughout on frequency management.

41.3: Revises direction on national frequencies. Changes authorizations listed in exhibit 01.

41.31: Incorporates direction on air safety guard, air tactics, local air, and aeronautical multicom (formerly set forth in sections 41.31a-41.31d).

41.31a-41.31d: Moves direction on air safety guard, air tactics, local air, and aeronautical multicom, formerly found in these sections and incorporates it in section 41.31.

41.32: Revises caption from National Fire Radio Cache to National Incident Radio Support Cache (NIRSC). Incorporates direction on command, tactical I and II, and incident tactical (formerly set forth in sections 41.32a-41.32c).

41.32a-41.32c: Moves direction on command, tactical I and II, and incident tactical formerly found in these sections and incorporates it in section 41.32.

41.34: Revises caption from Incident Air-to-Ground to VHF/AM Aeronautical Band Frequencies.

41.38: Incorporates direction on law enforcement and wildlife telemetry (formerly set forth in sections 41.38a-41.38b).

41.38a-41.38b: Moves direction on law enforcement and wildlife telemetry and incorporates it in section 41.38.

41.4: Clarifies authorization on coordination for additional Continuous Tone-Controlled Squelch System (CTCSS) tones.

41.5: Revises caption from Cooperative Arrangements to Cooperative Communications.

41.6: Revises caption from Call Signs to International Call Signs.

41.77: Adds direction on use of Form FS-6600-4, Initial Report of Radio Interference.

50: Revises the title of Chapter 50 from Telephone to Voice.

51.1-51.3: Incorporates and adds direction on management tools (formerly set forth in section 51).

52.3: Revises caption from Interexchange Carriers (IC) to Services for Employees with Disabilities (formerly set forth in section 52.4). Adds direction to consider equipment and services to assist employees with disabilities in all plans, installations, or system upgrades. Removes direction for ICs previously set forth in this section.

52.4: Revises caption from Services for the Handicapped to Technical Approvals (formerly set forth in section 52.5) and incorporates direction on services for employees with disabilities in section 52.3.

52.5: Removes direction on technical approvals from this section and incorporates it in section 52.4.

53.4: Removes direction on recording (CDR) records from this section and incorporates it in FSM 6642.2.

60: Removes references to DEPNET contract and establishes local area network specifications in support of the Integrated Information Management Program (Project 615).

62: Adds a cross reference to section 52.3 which requires that services be provided for employees with disabilities.

70: Provides guidelines for the implementation of video conferencing, including shared services (sec. 71); issues and concerns (sec. 72); installation and testing (sec. 73); and training (sec. 74).

80: Incorporates ID 6609.14-94-1, with no substantive changes in text.

81.3: Incorporates direction intermediate distribution facility to work station interface in a local area network environment (formerly set forth in section 81.4) to correct coding.

81.4-81.41a: Incorporates direction on backbones (sec. 81.4), Local area network backbones (sec. 81.41), and local area segmentation (sec. 81.41a) (formerly set forth in sections 81.5-81.51a) to correct coding. Moves direction on intermediate distribution facility to a work station interface in a local area network environment from section 81.4 to 81.3.

90: Provides guidelines for the Federal Telecommunications System 2000 (FTS2000) including the service order process (sec. 91), switched voice services (sec. 92), virtual on-net services (sec. 93), packet switched services (sec. 94), acceptance (sec. 95), trouble handling and escalation (sec. 96), and billing hierarchy (sec. 97).

This Handbook is now available electronically in the National Information Center in the same format as the paper copy.

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61 - Networking and Communications

61.1 - Local Area Network (LAN)

Ensure that all Forest Service Local Area Networks (LANs) meet the ISO 8802/2 and ISO 8802/3 specifications found in GOSIP (FIPS Pub 146-1). This requirement is commonly referred to as Ethernet or IEEE 802.3.

61.11 – Hardware

Use transceivers, hubs, bridges, routers, and gateways, suitable for twisted pair (10BaseT) 802.3 cabling or fiber optic (10BaseF) cabling, network control devices, and 802.3 adapters as appropriate to the selected wiring plan, to make configurations of the required size. If the size of the office configuration requires LAN segmentation to enhance performance, use bridges, routers, or gateways to interconnect the LAN segments in a way that restricts segment traffic to only those packets originating from, or destined to, a device on the segment.

61.12 - LAN Cabling

Operate the 802.3 LAN capability with cable lengths as described in chapter 80, Universal Wiring.

61.13 - Component Interconnection

Interconnect workstations, servers, hardcopy peripherals, PCs if networked, and X terminals using the 802.3 LAN.

61.14 - Peripheral Connection

Connect all peripheral equipment to the LAN. The connection may be either done directly, or indirectly through a workstation or other processor. Connection directly to the LAN is preferred for flexibility. Ensure that all peripheral equipment, except digitizers and scanners, are accessible from all workstations and terminals in the configuration. Peripheral equipment should have the ability to be placed anywhere on the LAN, and not be dedicated solely to a single workstation or other processor.

61.2 - LAN Protocols

Use LAN protocols which are Open Systems Interconnection (OSI) and/or transmission control protocol/internet protocols (TCP/IP) compliant for full system connectivity.

Use the DFS system for file sharing on IBM 615 equipment. Use TCP/IP and industry standards Open Network Computing/Network File System (ONC/NFS) for file services for compatibility

with the Data General minicomputer systems and compatibility with PCs. Do not use proprietary file service protocols such as Novell, Banyan, or Lantastic.

61.3 - LAN Management and Configuration

Use Netview/6000, and other tools as required, to configure and manage the LAN. The LAN management tools should be accessible both locally and remotely.

61.4 - Asynchronous Communications

Provide asynchronous ports for access to the LAN. Ensure asynchronous ports are configurable for various speeds, various bit combinations, and multiple protocol support.

62 - Services for Employees with Disabilities

See section 52.3 for direction.