SWITCHING SYSTEMS MANAGEMENT

DATA ADMINISTRATION

GENERAL

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1. GENERAL

1.01 ***Purpose:*** This section is concerned with the various aspects of data administration. The data portion of the network administration task is the most important. Most of the administrative action in network administration is based on data that are gathered by that organization; therefore, the data must be accurate, reliable, sufficient, and timely. Various sections of this division will be devoted to directing answers to the following questions:

- What data are required and for whom?
- When should studies be taken?
- How should studies be taken?
- What checks should be made to validate data?

Sections devoted to the administrative use of the data will be found in other divisions of these practices.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 ***Scope:*** This section serves as a background describing the emphasis on the data job and touches briefly on the role of network administration in the provision of reliable data. Separate sections within this division are devoted to the following:

(a) ***Measurement Period Determination:*** Defines and presents procedures for determining busy hours, busy seasons, and high days for local switching systems.

(b) ***Collection of Data:*** Discusses the procedures and considerations in implementing data gathering, including scheduling.

(c) ***Collection Devices and Systems:*** Reviews types of measuring devices available.

(d) ***Error Checks and Validation:*** Highlights the need for ***valid*** data by various users and lists methods of detecting whether the data are reasonable.

1.04 ***Group Involvement:*** The provision of valid data in usable formats, starting from the request and planning stages, requires the involvement of groups or departments other than the network administration group. Such areas of mutual responsibility have been identified for network administration personnel to clearly indicate the actions that must be taken in planning and scheduling of studies and in collecting, processing, and validating data.

1.05 ***Intensified Efforts and Departmental Involvement:*** It is intended that this section be used to emphasize interdepartmental interest and approaches to the data job and thereby aid in developing intensified efforts in accomplishing the end result of provision of reliable data. Reference to practices of other departments and other groups will give network administration a conceptual view of the overall responsibilities involved in the provision and use of traffic data.

1.06 ***Recognition of Organizational Structures:*** Due to differences in organizational structures, specific titles of individuals, groups, and departments have been avoided. Instead, general descriptive or functional names have been used. This type of format permits identification by the individual companies of a particular organizational level (or sequence of organizational levels) responsible for the procedures described herein.

1.07 ***Definitions:*** The terminology used in the various sections of this division consists of many specific terms assumed to be common knowledge among network administration people. However, to insure that consistent interpretation is placed upon certain descriptive terms, paragraphs of terminology are compiled in each section of these practices as required.

2. REQUIREMENTS FOR DATA

2.01 ***Uses:*** Data are accumulated in switching systems for many different uses, in many different formats, and in many different time periods. The main uses of switching data are categorized as follows:

(a) Reporting the grade of service a customer experiences in any hour that is significant to the customer

(b) Analyzing the performance of the equipment during all significant time periods

(c) Determining the loads generated by the customers to plan for and provide adequate equipment

(d) Distributing loads equally over the available equipment

(e) Administation and provision of lines and trunks

(f) Apportionment of revenues and cost according to usage on facilities.

The uses of the data would determine whether it is required on an immediate basis or needed for historical purposes, whether it is required on a one-time basis or on a continuing basis, and whether it is to be supplied on an informal basis or on a formally submitted documented basis.

2.02 ***Types of Data:*** The types of data collected vary with the intended uses of the data and also with the capabilities of the available measuring facilities. Many of the measurements are taken on a sampling basis and thus are subject to confidence intervals and assurance levels. Other measurements are straight numerical totals of the number of times specific events occur.

(a) Measured items include carried loads, service levels, customer reactions, administrative performance, etc. A partial listing of the types of measuring facilities used to collect these data is as follows:

Usage Registers

Detector Group Usage Registers

Peg Count Registers

Totalizer Registers

Last Trunk Busy Registers

All Trunks Busy Registers

Overflow Registers

Load Indicating Registers

Group Busy Timing Registers

Elapsed Time Registers

No. 1 Traffic Usage Recorder (TUR)

No. 2A TUR (Concentrator Trunk Usage Recorder)

No. 3B TUR (Small)

No. 4A TUR

No. 1A Traffic Measuring System

No. 1A Traffic Data Recording System

Esterline Angus (Graphic Recorder)

Subscriber Line Usage Recorder

Lamp Indicators

Dial Tone Speed Registers

Matching Loss Registers

Sender Attachment Delay Recorder Registers

Answering Time Recorder Registers

Service Observations

Customer Complaints

Operator Complaints

Engineering and Administration Data Acquisition System (EADAS).

(b) Details concerning the use of the above measuring devices are covered in other sections of these practices and in Traffic Facilities Practices.

3. RESPONSIBILITIES

3.01 ***Network Administration:*** Network administration, because of close association with switching equipment and network maintenance personnel, is best informed of the flow of traffic and thus has the primary network operation responsibility of providing data to the various users. The following items are data job responsibilities of the network administrator. Detailed reviews of each item will be found in other sections of these practices.

(a) Ascertaining user needs

(b) Selecting the measuring device(s)

(c) Insuring that sufficient data are provided to cover the busy hour(s), busy season, and ten high days

(d) Scheduling the study

(e) Implementing the study

(f) Pre-editing of raw data

(g) Coordinating the processing of data

(h) Validating the summarized data

(i) Disseminating the summarized data

(j) Analyzing results

Successful accomplishment of the data task demands ***full compliance*** with ***each phase*** of the program.

3.02 ***Others:*** Other groups play important parts in the overall data job. This team effort cannot function properly unless the following groups perform as expected:

(a) ***Network Maintenance***—This group maintains switching equipment and measuring devices in proper working condition, assists in the carrying out of designated duties per study schedules (such as setting program timers and keys, changing film, and reading registers when required), and connects portable measuring devices as requested.

(b) ***Outside Vendors***—The outside vendors develop film rapidly and to exacting standards and provide keypunch and computer services when required.

(c) ***Network Design*** —This group analyzes the data-gathering equipment needs and writes network design orders for these needs, promptly analyzes engineering data, and reviews areas of concern with the network administrator.

(d) ***Engineering***—The engineering group provides the proper measuring equipment to serve the administrator's needs.

Interdepartmental cooperation is necessary to complete the entire data task, and the network administrator must act as the coordinator to insure its success.

3.03 ***Overall:*** Included in a successfully functioning data program should be a communication effort to insure that all contributors have a feeling for their part as it relates to the entire program. The capital invested in measuring equipment throughout the system and the expenses incurred in providing data leave no room for anything but maximum efforts by all involved in providing adequate, accurate, and timely data.