

NETWORK SUPERVISOR—STORED PROGRAM CONTROL

Personnel assigned as Network Supervisors—Stored Program Control will generally be responsible for optimum loading, balancing, assignment and utilization of installed equipment; daily analysis of local switching network performance; analysis of future local switching configurations and capacities; identification, investigation and resolution of service problems; protection of service during equipment additions and/or rearrangements; data scheduling and collection; data validation and provision; and all activities related to translation administration responsibilities.

The position is responsible for all Network Administration responsibilities — service, data, and assignment — for stored program control switching entities **only**. This specification is most practical in metropolitan areas, but is not precluded from use in outstate areas where No. 2 and No. 3 ESS systems are serving customers.

Because this Network Supervisor is responsible for all areas of the Network Administration functions, coordination is essential. This coordination is within the Network Administration organization (for such duties as multientity loading plans), within the network department, and is also interdepartmental. The nature of the administration supervisory functions are such that they require coordination in order to do the job effectively.

Note: While this job description uses No. 1 ESS terminology, it is applicable to other ESS systems.

DUTIES AND RESPONSIBILITIES	PERCENT OF TOTAL TIME
A. Equipment Utilization	20
B. Assignment	15
C. Service Problem Analysis	15
D. Office Status Evaluation/Capacity Determination	15
E. Data Administration	15
F. Transition Management	10
G. Trunk Network Adequacy	5
H. Miscellaneous	5

NOTICE

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JOB TITLE: NETWORK SUPERVISOR—STORED PROGRAM CONTROL

DEPARTMENT: NETWORK

SUPERVISOR: NETWORK MANAGER—ADMINISTRATION

JOB SUMMARY

This position is responsible for the optimum loading, balancing, and utilization of installed equipment; daily analysis of local switching network performance; analysis of future local switching configurations and their capacities; and identification, investigation, and resolution of all service problems. Additionally, this position is responsible for protection of service during the installation of new equipment in central offices within the area.

The area of responsibility for this position would encompass from two to four entities of local switching equipment in a metropolitan area. This is stored program control type of equipment only, which in a metropolitan area would normally be No. 1 ESS equipment only. The amount of main stations served by these entities would range between 15,000 to 70,000, depending on the complexity of the job in the area.

DUTIES AND RESPONSIBILITIES

20% A. Analyzes data to insure that installed central office equipment is being efficiently utilized.

- (1) Analyzes data records to identify adverse trends of key data (e.g., E to E visitation rate, dial tone speed, blocked dial tone queue and matching losses).
- (2) Reviews maintenance busy data to identify trunks and service circuits out of service.
- (3) Analyzes data for common control equipment (H Schedule) and data for trunk groups (C Schedule).
- (4) Analyzes other available data that relates to efficient equipment utilization, [e.g., quarter hour (TC15) and daily (TC24) traffic summaries, line and trunk load balance results, daily maintenance summaries (PM01), customer report summaries and signal distributor load factors].
- (5) Combines analysis of above items (1 through 4), and identifies adverse equipment operation and utilization situations.
- (6) Authorizes the distribution of network data trouble tickets to central office maintenance supervisor for identified data troubles.
- (7) Cooperates with central office maintenance supervisor in investigating incidents where data indicate that equipment is operating incorrectly, or where an equipment imbalance or excessive maintenance outage situation is evident.
- (8) Monitors load balance data, reviews concentrator loads, the distribution of classes of service among concentrators and switches, customer "no dial tone" reports and blocked dial tone results to identify an existing or potential imbalance situation. Initiates corrective action, if necessary, and directs assignment activities accordingly.

15% B. Directs and coordinates all activities related to assignment of central office equipment and maintenance of records of these assignments. Administers overall translation activity, supervises maintenance of these records, and assumes responsibility for office translation records.

- (1) Receives and analyzes network data, commercial forecasts, current plans, capacities and other load-related data. Studies various alternatives and develops a loading plan (consists of a narrative description of assignment instructions in each entity, a description of office limitations, concentrator loading charts, separate demand and facilities charts). (This activity coordinates with other network supervisors in multientity buildings with both ESS and electromechanical equipment.)
- (2) Provides loading plan to Network Manager for approval. Upon approval, directs loading plan implementation.
- (3) Monitors effectiveness of loading plan by monthly review of working main station forecast and by continuing evaluation of the loading plan's effect on the office and its components.
- (4) Receives requests for reservations from commercial and marketing. Provides reservation information to clerk. Reviews records for overdue reservations and, if necessary, coordinates with Commercial or Marketing for update.
- (5) Reviews and endorses class-of-service assignments by concentrator and monitors class-of-service balance. Initiates a semiannual review of abbreviated class codes to insure utilization is within objective levels. Cooperates with central office maintenance supervisor and plant assignment supervisor to correct deficiencies.
- (6) Supervises the assignment of special hunting arrangements (series completion, multiline hunt, remote make busy, stop hunt, etc) and assignment of CENTREX CO facilities (if required). Monitors parameter set words related to assignment (quantities of multiline, CENTREX console, simulated facilities groups, and simulated facilities registers).
- (7) Supervises assignment of special services and special arrangements and features (WATS, ground start, TWX, TOUCH-TONE®, custom calling features, test lines, signal distributor numbers, scan points, etc). Coordinates all assignments with marketing, network design engineering, central office maintenance supervisor, plant assignment supervisor and any other involved departments. This is especially important with new services such as ESSX.
- (8) Receives listing of essential service customers from commercial. Directs clerks in insuring that essential service assignments are properly made and that essential service records are maintained.
- (9) Coordinates and administers assignment activity with plant assignment supervisor (adequacy of assignments, arrangements for delivery, timely return of used assignments, special arrangements).
- (10) Prepares line equipment selection preference guidelines in compliance with short jumper concept. Monitors load balance data. Initiates plan to insure assignments are made that satisfy both balance and main frame considerations. Coordinates with central office maintenance supervisor, and plant assignment supervisor for efficient use of assignment plan. Supervises clerks in implementation of assignment plan.
- (11) Verifies need (indicated by load balance data) for subscriber line usage studies. Coordinates study schedule with central office maintenance supervisor. Analyzes study results and supervises clerks in preparing corrective action (frame transfers).

- (12) Monitors load balance data for high concentrator loads. Identifies any long jumpers that may be in frame zone. Directs and oversees clerks in issuing line transfers to remove unnecessary long jumpers.
- (13) Originates and conducts plan for clerical observation (representative sampling) to assure adherence to prescribed practices and policies. Reviews service order processing, assignments of lines and numbers, adherence to loading plan, essential service assignments, proper use of special features and options, proper service observing loop assignments, efficient hunting group structure, ringing code assignments etc.
- (14) Cooperates with plant assignment supervisor, central office maintenance supervisor, business office supervisor, and accounting supervisor in conducting sample checks of accuracy of records. Supervises further checks of assignment records versus actual working central office equipment in accordance with local policy.
- (15) Coordinates with plant assignment supervisor to maintain party line fill objectives. Provides summaries of party line customers that are receiving private service to plant assignment supervisor for reassociation.
- (16) Supervises all activities and negotiates all obstacles related to efficient assignment of central office equipment and maintenance of all records related to the assignment of this equipment. Oversees and controls activities of reporting clerks.

15% C. Monitors and reviews all possible service problem indicators, investigates and studies data and any other information to identify service problem cause and formulates and coordinates corrective action to remove or rectify the cause of service problems.

- (1) Directs monitoring of quarter hourly, hourly, daily, weekly, and monthly service results. Studies these results for possible problem indications.
- (2) Studies network data, phase action printouts, service observation failure summaries, plant data summaries, and all other related data and investigates to identify cause of service problem. Cooperates with central office maintenance supervisor in investigating cause, if necessary.
- (3) Originates corrective action plan and reviews progress of plan. Cooperates with and coordinates activities of other departmental groups to implement plan and remove problem cause.
- (4) Investigates and studies all available data to identify possible service problems or weak spots. Advises Network Manager regarding these weak spots, develops interim relief plan, and coordinates relief plan with other affected departmental groups.
- (5) Participates in development of a local office or network control plan to minimize service impact that could be caused by abnormal conditions (disasters, telethons, elections, etc).
- (6) Analyzes office condition to identify a service condition that requires local network management action. Participates with Network Manager in any line load control decisions. (Coordinates with Network Management Center).
- (7) Coordinates with central office maintenance supervisor to identify service impact of any service affecting phase actions.
- (8) Supervises preparation and maintenance of good quality recorded announcements.

15% D. Reviews and studies proposed equipment orders, analyzes data, and calculates capacities to insure that adequate central office equipment and capacity is scheduled to be provided in the future. Administers call store, program store, and spare word capacities and maintains surveillance of these capacities.

- (1) Calculates capacity of the quantities of all traffic sensitive items and evaluates these versus the capacity of the installed equipment. (This includes calculating line and number fill, program store translation capacity, call store register word capacity, central processor capacity, junctor capacity, customer digit receiver and other service circuit capacities). Oversees maintenance of capacity records and evaluates changing capacities and trends. Determines limiting or sensitive item(s). Detailed procedures in the form of TFPs and DFMPs must be followed in capacity determination activities. Advises Network Manager regarding capacities and recommends courses of action. Plans with Network Design Engineer and negotiates to insure that adequate central office equipment and capacity is scheduled for installation.
- (2) Studies proposed equipment arrangements and coordinates with Network Design Engineer and/or Equipment Engineer to effect change of an unacceptable arrangement and/or inadequate provision of office equipment and capacities.
- (3) Calculates projected office characteristics for engineering. Analyzes results and advises Network Manager of results.
- (4) Calculates capacities to exhaust of current office configuration. Analyzes results and recommends courses of action to Network Manager. Negotiates with Network Design Engineer and Plant Extension Engineer regarding growth and scheduling.
- (5) Analyzes current office data to detect changes in office characteristics. Identifies situations where these changes will affect office capacities and/or exhaust date. Advises Network Manager and negotiates with Network Design Engineer and/or Plant Extension Engineer for relief.
- (6) Analyzes commercial forecast to identify changes in forecast, changes in growth of multiline hunting groups, or the introduction of new services. Studies effect of these changes on current and future capacities. Advises Network Manager and negotiates with Network Design Engineer for relief.
- (7) Analyzes current data to identify effects of area transfers on both the "losing" and "gaining" offices. Studies data for possible changes in busy hours, effects on all components, potential change of limiting items, and potential change in office exhaust date. Advises and negotiates with Network Design Engineer, Planning Engineer and commercial in effecting the transfer.
- (8) Calculates busy season in-service requirements, recommends to Network Manager for approval, and cooperates with central office maintenance supervisor in insuring that requirements are met.

15% E. Controls, plans, and coordinates activities related to data scheduling and collection, and data validation and provision.

- (1) Oversees preparation of "traffic map" for data collection schedule (Traffic Measurement Schedule ESS 1402). Reviews accuracy of collection schedule and initiates any changes required. Coordinates and negotiates with central office maintenance supervisor to overcome any obstacles that develop in data collection process.
- (2) Plans, supervises, and conducts busy hour studies and selection of busy hours. Determines office data requirements. Endorses and provides data collection schedule to Network Manager for approval.
- (3) Supervises preparation and then approves the layout of the traffic register assignments for various data schedules. Coordinates with Central Office Maintenance Supervisor and Network Design Engineer to overcome obstacles. Reviews network design order to insure adequate call store words are provided for traffic registers.

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- (4) Originates procedures for an annual translation verification of the traffic register assignment data. (Consists of a comparison of assignment records versus program store memory—a "T-READ"—and a comparison of assignment records versus requirements of the Translation Guide, TG1A.) Cooperates with central office maintenance supervisor in trouble correction.
- (5) Receives requests for data from departmental representatives with special data requirements. Directs and supervises scheduling, collection and validation of this data. Provides summarized data to Network Manager for distribution.
- (6) Controls and supervises scheduling and collection of data required for load balance, monthly peg counts, and other recurring data requirements.
- (7) Originates a plan for data validation which enables clerks to identify obvious data troubles. Oversees clerical activities related to identifying these troubles using validation techniques. Coordinates with central office maintenance supervisor for correction.
- (8) Coordinates all activities related to the generation of central office network data utilizing PATROL (Program for Administrative Traffic Reports On-Line). This involves supervising initial file establishment, scheduling data, overseeing maintenance of file and updating of equipment amounts and main station information, administering teletype use and logs, authorizing and supervising removal of data from files, and administering time-share procedure changes and time-share costs.
- (9) Analyzes all network data printouts and summaries and supervises preparation of records of these data and any other key data items.
- (10) Supervises activities and negotiates for eliminating obstacles related to scheduling, collection and processing of all data requirements. Oversees and controls activities of reporting clerks responsible for data activities.
- (11) Plans, controls and supervises changes in traffic measurement assignments originated by traffic teletype (general purpose registers, and H & C schedule changes).
- (12) Plans, controls, and coordinates with central office maintenance supervisor any changes in traffic measurement assignments originated by the MCC teletype (selected customer line usage, line concentrator usage, multiline hunting group studies, etc).
- (13) Initiates procedures for clerical monitoring of machine performance to identify an abnormal machine operation condition that could affect data output and data validity. Consists of a daily review of plant measurement data to identify a "phase" and, upon identification of a data-affecting phase, coordination with the central office maintenance supervisor to provide a "T-READ" printout that will help identify the affected data. Establishes procedures for reestablishing traffic schedules after a reinitialization required by a phase action.

10% F. Studies and investigates planned central office equipment additions and/or rearrangements. Supervises preparation of required plans for efficient utilization of new equipment and services and for protection of service during the transition. Studies and interprets network data relating to office before, during, and after equipment addition.

- (1) Studies documents and capacity data (juncture assignment plan (JAP), parameter data assembler, and call store details) relating to proposed growth job and schedule. Advises and cooperates with Network Manager and Network Design Engineer, Plant Extension Engineer, and Equipment Engineer in final network design order preparation and growth job scheduling.

- (2) Originates schedule for provision and coordinates preparation of all updated translation data (associated with trunks, service circuits, lines, and information related to zoned main frame LEN assignments).
- (3) Studies transition management study data. Prepares and recommends a plan for making equipment and trunks available to WECos that are involved in rearrangements or modifications. Informs Network Manager, who will approve plan. (Plan must be coordinated with central office maintenance supervisor and trunking engineer to allow for trunk order preparation and working).
- (4) Originates a plan for balancing of any new equipment. Coordinates efforts to relocate or rearrange equipment when necessary. Distributes and coordinates plans with central office maintenance supervisor, WECos supervisor, and other departmental groups involved. Evaluates load data before, during, and after changes.
- (5) Directs and oversees preparation of capacity and any load-related documents. Reviews these documents with Network Manager, who will approve them. Distributes these and any other information required by job contact committee. (These documents should reflect loads and capacity for periods of WECos activity. Load estimates are matched against periods of time to show equipment removal preference).
- (6) Supervises clerks in data activities to insure that service and load monitoring data are available for all required periods.
- (7) Reviews and studies data gathered during period of transition. Determines if there is a deterioration of service due to transition and coordinates all related departmental groups to effect a resolution of the service problem.
- (8) Administers overall Network Administration involvement on job contact committee. Analyzes all requests made upon Network Administration in relation to the addition and negotiates with central office maintenance supervisor, WECos supervisor, equipment engineer and Network Manager to insure that Network Administration responsibilities related to the addition are met.
- (9) Coordinates placement of new equipment into service, and/or new services into operation, with central office maintenance supervisor, WECos supervisor, trunk engineer, accounting (if necessary) and any other involved departmental groups.
- (10) Supervises any required update of records, traffic register assignments, and traffic measurement schedule (MAP).
- (11) Analyzes any parameter changes made to insure that associated translations have been changed. (head table capacity—ESS 1500A). Coordinates with Network Design Engineer if necessary.
- (12) Supervises update of the TRUST program. Administers update of trunk translations records and coordinates activities accordingly.

Note: This part of the job description presupposes a growth addition to an existing No. 1 ESS office. The relative amount of time that the Network Supervisor is required to spend on transition management activity varies significantly depending on the size of the job, the job complexity, the amount of hardware changes, program changes and retrofit program changes. However, the above stated activities are a reflection of the "normal" Network Administration duties performed by this position for a not unusual amount of growth activity.

There are many instances, however, where a network supervisor is responsible for an ESS conversion and the No. 1 ESS machine is a replacement switching unit. The activities of the Network

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Administration forces are significantly different in this case, and at times require full time dedication to the conversion project. Some of the administration activities that are a necessity with an ESS conversion are as follows:

- (a) Provide aid and support to Network Design Engineer in preparing Junctor Assignment Plan, E-8056 Questionnaire, and head table capacity record.
- (b) Chair translation subcommittee.
- (c) Purify line and number records prior to preparing final translations.
- (d) Prepare complete translation series required (SLATTS and Full Translations) within time period allotted.
- (e) Provide changes required as a result of the TDA error check and verify translation printout provided by Western Electric.
- (f) Arrange for data scheduling, collecting, and validation before and after the cutover. Verify traffic registers for accuracy prior to cutover.
- (g) Establish procedures for implementing PATROL.
- (h) Perform-call-thru testing as required to insure operation of available features. Participate in resolving discrepancies.
- (i) Prepare necessary recorded announcements.
- (j) Update records and notify all departments involved of any translation changes after the TDA run.
- (k) Oversee proper revision and placement of necessary teletype equipment.
- (l) Establish procedures for Network Administration processing of service orders in ESS environment.
- (m) Provide necessary main frame line equipment cross-connections.

5% G. Analyzes trunk group data (C Schedule), monitors trunk network usage and activity, and coordinates with trunk administrator and/or engineer to insure adequacy of trunking network.

- (1) Reviews trunk network configuration to insure that in-service network is in agreement with design trunk estimate (received from trunk engineer) and routing translations.
- (2) Analyzes trunk records to insure trunks are in service prior to need. Coordinates with trunk administrator and/or central office maintenance supervisor for order initiation, trunk turn-up and to overcome any obstacles that are preventing implementation of required trunk network.
- (3) Analyzes trunking data to identify trunk groups that are over capacity, and coordinates with trunk administrator for additional trunks or routing changes.
- (4) Analyzes trunking data to identify suspected trunk group troubles, and coordinates with central office maintenance supervisor for trouble identification and correction.

5% H. Miscellaneous

- (1) Represents Network Administration activities at any meetings related to service offered in the offices.

- (2) Chairs translation subcommittee and supervises maintenance and updating of specific translations records. Maintains accountability for accuracy of translations and office records upkeep.
- (3) Administers teletype activity (input, output, monitoring, tape cutting, logs, etc) and insures proper provision of teletype equipment, features, and emergency power).
- (4) Establishes procedures for maintaining all recommended No. 1 ESS-related documentation. Instructs and/or oversees training. The recommended documentation includes:

TG-1A	Translation Guide
PA 591001	Office Parameters
PA 591003	Translation Output Configuration
IM 1A001	Input Manual
OM 1A001	Output Manual

Various BSPs, TFPs, GLs/ELs, TEGs, and PATROL procedures.

- (5) Oversees preparation of and receives all reports related to Network Administration activities. Reviews, endorses (or approves) and distributes reports accordingly. Reports required are the dial service index, load balance index and various counts of equipments.
- (6) Administers personnel-related activities for reporting clerical force (Company policy and objectives, training, safety, absences, etc).
- (7) Maintains positive relations with the vocational representative groups.
- (8) Maintains positive interdepartmental working relationships.

SCOPE AND NATURE OF SUPERVISION

- (1) Incumbent reports to Network Manager along with two or three network supervisors and an assignment supervisor (all of whom are responsible for electromechanical type of equipment only). Reporting to this position are three to five clerks.
- (2) Immediate supervisor is involved in the setting of the overall goals and policies. However, most of the activities of this position are not subject to supervisory review, and the Network Manager is able to provide only broad review of activities in most areas. Incumbent is a very important member of local team that is responsible for engineering, administering, and maintaining the local office. The Network Supervisor is given responsibility and accountability for the service rendered by the local switching entity. Interdepartmental coordination and participation in the "team" approach is highly significant.
- (3) There are many guides and much documentation available for administration activities. These include the Translation Guide, DFMP, input and output manuals, TFGs, TFPs, TSOPs and several GLs, ELs and local policy statements. Additionally, there are local procedures, union contracts, and mutually agreed-upon procedures available to the Network Supervisor. It should be pointed out that documentation and guides for this position are very technical and experience is a factor in the use of these guides (e.g., use of printouts in octal and the conversion of these to binary and digital forms).