AT&T DELIVERABLE SYSTEMS

PROCEDURES FOR MAINTENANCE AND CONTINUING DEVELOPMENT

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1. GENERAL

1.01 These instructions describe the procedure and interface between the Operating Telephone Companies (OTCs) and AT&T for the control of maintenance and continuing development of centrally developed deliverable systems which have been developed and/or are maintained by AT&T funding. A partial list of such systems is attached as Appendix 5.

1.02 This issue replaces the provisional issue of Section 007-240-210, AT&T Company Services for Centrally Maintained Portable Systems. The procedure on release of source code has been deleted. However, procedures for release of source material will be covered in Section 007-203-110 (to be issued).

1.03 The objectives of this document are to: outline procedures to be adhered to by AT&T and the OTCs; ensure that Operating Companies requesting design changes and diagnostic support will receive prompt response to their requests; and provide periodic maintenance and continuing development project status.

2. DEFINITION OF TERMS

A. Maintenance

2.01 Maintenance of an AT&T system consists of three major types of activities: design maintenance, repair maintenance, and consultation maintenance.

Design

2.02 Design maintenance is any alteration of the detailed design of an operational system that is performing correctly within the context of its current definition. Design maintenance consists of forced design change and/or optional design change.

2.03 ***Forced Design Change:*** A change imposed by demands that are external to the project group's span of control, such as the conversion from an operating system that the vendor no longer supports, or new government regulations, or new AT&T reporting requirements.

2.04 ***Optional Design Change:*** A change that would include any other design change.

Repair

2.05 Repair maintenance is any change needed to permit the system to operate in the OTC standard environment as specified by its current detailed design. The standard OTC environment is specified in the Rules for Centrally Developed Systems, Section 007-203-100.

Consultation

2.06 This maintenance encompasses the interaction between the OTCs and AT&T concerning the operation of the system; it does not result in change to the system. It generally takes either of two forms: guidance or false alarms.

2.07 ***Guidance:*** Questions and requests for guidance or clarification.

2.08 ***False Alarms:*** Reported trouble conditions which are subsequently determined to be caused by misunderstanding or incorrect actions by the OTC (eg, hardware malfunction, input error, etc).

B. Severity Codes

2.09 In order to indicate the severity or importance of a trouble condition in repair maintenance and to designate the priority of AT&T response, severity codes are assigned by the OTC subject to concurrence by AT&T.

Severity Code 1

2.10 A trouble condition exists that cannot be circumvented and either:

(a) Inhibits a significant portion of the system from successfully performing its designated functions, or

(b) Critically affects an OTC operation. Repair is performed on an immediate-response basis, and a temporary fix and associated documents are sent to the requesting OTC and other OTC's using the same release are informed of the availability of the fix.

Severity Code 2

2.11 A trouble condition similar to severity code 1 exists; however, the change is not required until a known future date. The need for change is such that if it is not resolved by that date the request satisfies the severity code 1 criteria and is upgraded to 1 unless the date is extended by the project manager. The repair is expedited as required in order to complete the fix by the required date. A fix and associated documents are sent to the reporting OTC and other OTCs using the same release are informed of the availability of the fix.

Severity Code 3

2.12 A trouble condition exists that is neither critical to the system nor the OTC and which can be circumvented. Repair is performed on a scheduled basis and system repairs and associated documentation are incorported into future releases as soon as practicable. The trouble report continues to be reported until the trouble condition is cleared.

Severity Code 4

2.13 A category that allows for the reporting of minor problems. Repair is performed as time permits, and system repairs and associated documentation are accumulated and incorporated into future releases. The trouble report remains in the data base until the trouble condition is cleared.

C. Continuing Development

2.14 A definition change for the addition, modification, or deletion of a function, a capability, or a feature to the operational system. A definition change can be either forced, one that is imposed by external demands such as new government regulations, or optional which covers any others.

D. Product Updates

2.15 There are three release types: temporary fix, maintenance release, and new version.

Temporary Fix

2.16 An urgent repair made to a program to cause it to operate according to the design intent. The urgency of the repair is identified by the existence of a severity 1 or 2 trouble. The release is nonscheduled and the target timing is defined as part of the severity code. The next scheduled release of the program will incorporate or replace each temporary fix. Load modules will be distributed to the OTCs via T-TRAN. Supporting documentation will be distributed via facsimile device and/or required instruction will be given by telephone.

Maintenance Release

2.17 A consolidated update of portions of a system containing accumulated temporary fixes, forced design changes, optional design changes, and minor enhancements which do not have significant economic or operational impact on the users and/or operators. A maintenance release is a scheduled release; the scheduling is the responsibility of AT&T. The scheduling consideration must include the operational and economic impact on the OTCs of:

(a) Continuing with the "old" version vs changing to the "new"

(b) The costs associated with frequent installation of revisions to a system

(c) The availability of AT&T Data Systems personnel to program and adequately test the change

(d) The number and severity of outstanding requests for change and severity 2, 3, and 4 trouble reports.

2.18 Weighing these and perhaps other factors, it may be decided that there will be a release every quarter, or every 6 months, or some fixed period, or that no repetitive schedule will be determined but, when "enough" changes have been requested, a projected release date will be established to allow adequate testing and adequate OTC preparation.

2.19 For maintenance release, load modules will be distributed to the OTCs via T-TRAN unless the volume of transmission involved is so great as to make it desirable to send a magnetic tape. Other supporting documentation, ie, the release package, is sent via U.S. mail, Company mail, or other appropriate means.

New Version

2.20 A new version of a system is a release with new capabilities which are expected to have significant economic or operational impact on OTC users and/or operations. For example, new staffing and/or training must be conducted, new hardware must be acquired, or a substantial change in CPU time and storage facilities is expected. This type of release will normally be trialed before release to the OTCs. A new version is a scheduled release; the schedule is the responsibility of AT&T giving consideration to the economic and operational impact on the OTCs. A new version of a system would not normally be a regularly recurring event. The release media is the same as for a maintenance release.

Mode of Release

2.21 The mode of release of the computer subsystem (CSS) portion of the system is load modules for all three types of release. The exceptions to this policy are:

(a) Systems currently centrally maintained which were previously released to OTCs in source code mode.

(b) By specific agreement with the OTC having a unique system requirement not supported centrally. (See Part 8.)

Release Numbering

2.22 To keep track of which "edition" of each module is the current AT&T supported module, a three-part identifying number is used. Its structure is:

VERSION.RELEASE.TEMPFIX

2.23 The three types of release (temporary fix, maintenance release, and new version) have the following effects on the three-part "edition" number:

2.24 ***New Version:*** The "Version" portion is incremented by one; the "Release" and "Tempfix" portions are set to zero. For example, when a system is first released the number is 01.00.00. When a new version of the system is released, the number is 02.00.00, etc.

2.25 ***Maintenance Release:*** For each maintenance release the "Release" portion is incremented by one; the "Tempfix" portion is set to zero; and the "Version" portion does not change. For example, the first maintenance release to a system changes the number from 01.00.00 to 01.01.00.

2.26 ***Temporary Fix:*** For each temporary fix, the "Tempfix" portion is incremented by one. For example, the first temporary fix to a system changes the number from 01.00.00 to 01.00.01. The AT&T-MCC is expected to be aware of the fact that a temporary fix of a specific module has gone to specific OTC(s).

2.27 The three-part release number is made a part of the program modules by AT&T Data Systems.

3. ORGANIZATIONAL RESPONSIBILITIES

A. Operating Telephone Company—Maintenance Control Center (OTC-MCC)

3.01 Each OTC will establish an OTC-MCC to receive, consolidate, and forward requests for the maintenance of AT&T developed products, monitor the progress of the requests, act as the central control point, and perform or insure performance of adequate diagnostics. The OTC-MCC receives verbal or written maintenance requests from the individual user or the data processing department. These requests may result from either a failure of the system to perform according to specifications, ie, a "trouble" or the need for a capability not contained in the design of the system. For requests to add or delete features to the system, ie, design maintenance, the OTC-MCC mails a written request to the AT&T-MCC (see System Change Request Form, Appendix 2). For troubles, ie, repair or consultation maintenance, the OTC-MCC may either phone or send a written request to the AT&T-MCC (see Trouble Report

Form, Appendix 1). Phone calls should only be made for Severity Code 1 or 2. While the trouble report is being handled by AT&T, the OTC-MCC serves as an intermediary between the OTC and AT&T for any questions or requests for more information. Upon receipt of an AT&T product update, the OTC-MCC coordinates the installation of the update.

3.02 To effectively communicate maintenance requests to the AT&T-MCC, it is advisable that the OTC-MCC develop a procedure based upon the trouble report forms and system documentation. This procedure should guide the OTC in performing sufficient diagnostics to assure that the problem is not caused by an operator failure. The procedure should also guide in gathering adequate data for the subsequent reporting of the trouble condition to the AT&T-MCC.

B. AT&T-MCC

3.03 The AT&T-MCC of AT&T Data Systems will be solely responsible for controlling and coordinating the maintenance and release of all deliverable products to the users.

3.04 The AT&T-MCC will:

(a) Be open 24 hours per day, Monday through Friday, to receive severity 1 and 2 trouble reports.

(b) Establish an official product library to control all CSS products deliverable to the users, ie, CSS documentation, program load modules, etc.

(c) Coordinate and control the initial release of systems to OTCs.

(d) Receive trouble reports and change requests, classify the requests, and concur in severity codes assigned by users to the trouble reports.

(e) Coordinate high priority requests and forward the requests to the appropriate programming services group for resolution.

(f) Insure that all changes are approved by the appropriate authority before updating an official product.

(g) Assemble Product Update Packages and control the release of the packages for all updates.

(h) Maintain up-to-date status of all changes, troubles, etc, for reporting purposes.

3.05 For the remainder of this document, the term "MCC" shall be used to identify the AT&T-MCC; "OTC-MCC" will be used to identify the corresponding OTC organization.

4. TROUBLE REPORT PROCESSING

4.01 A trouble report (see Appendixes 1 and 6) is submitted by the user when the system is not performing in accordance with the present design, or a design deficiency exists which does not allow the system to meet its objectives. Trouble reports are originated by the OTC for repair maintenance, consultation maintenance, or for personnel subsystem (PSS) troubles. Completion instructions are shown in Appendix 8.

A. Repair Maintenance Procedures

4.02 Upon being informed by the OTC user group or its data systems operations department, the OTC-MCC collects all data relevant to the problem and required by AT&T. It then contacts the MCC orally and/or in writing, depending upon the urgency and nature of the problem. The MCC records the trouble report in its log and, if the request is oral, prepares a trouble report. The MCC then forwards the trouble report to the applicable maintenance group. The AT&T maintenance group then reviews and processes the trouble report.

4.03 Periodically, the status of the repair operation will be reported to the MCC. Requests for additional OTC data will be made by the maintenance group to the MCC.

4.04 Should the maintenance request be denied (by the AT&T Project Manager or AT&T Data Systems), the MCC shall be notified in an explanatory letter written by the maintenance group giving the reasons for such action. The MCC will notify the OTC-MCC.

4.05 If the trouble involves only PSS documentation, the MCC forwards the trouble report to the project manager and tracks the status of the response. When the maintenance group completes

the repair operation, the MCC will release an immediate temporary fix or a normal maintenance release depending on the severity of the problem.

4.06 If the trouble also involves changes to the PSS documentation, the MCC will notify the project manager, track the status of PSS documentation, and coordinate the release of software and all documentation. The OTC-MCC coordinates and monitors the installation of the product update package and notifies the MCC of the installation. (See 6.01.)

B. Consultation Maintenance Procedures

4.07 Consultation maintenance requesting guidance is sent directly to the appropriate group by the MCC. The CSS related questions are referred to AT&T Data Systems maintenance; PSS documentation questions are referred to the AT&T Project Manager.

C. False Alarm

4.08 A report of troubles which is the result of a hardware failure or a failure to operate the system according to the documentation, will be closed as a false alarm. If a trouble is determined to be false alarm by the AT&T Programming Services Group (PSG), the programmer notifies the MCC of the intent to false alarm. The MCC, in turn, notifies the OTC-MCC of the false alarm and the reason. If the OTC disagrees, the MCC will contact the PSG supervisor and/or the PSG district supervisor. If the disagreement is not resolved by these contacts, the MCC will contact the AT&T project manager who is the final arbiter. The MCC will update the data base to reflect the status of the trouble as finally determined.

5. SYSTEM CHANGE REQUEST PROCESSING

5.01 Anyone recognizing the need to expand the capabilities of a system beyond the initial design prepares a system change request (see Appendixes 2 and 7). This form and supporting attachments should provide a clear description of the change, the reason for the change, and the operational and economic impact on the user of implementing or not implementing the requested change. Completion instructions are shown in Appendix 9.

5.02 ***System Change Request Procedures:*** The request and supporting documents are sent to the OTC-MCC which logs the request and forwards it to the MCC. (Requests originating within AT&T are sent directly to the MCC.)

5.03 The MCC enters the request in its status data base and forwards the request to the project manager in the AT&T sponsoring general department. A copy is sent to the AT&T Systems Planning Group member assigned to the project involved. The project manager has the responsibility for:

(a) Evaluating the request in relation to the needs of other users of the system and accepting or denying the request

(b) Initiating technical feasibility analysis and cost estimating

(c) Arranging funding

(d) Coordinating the implementation of the change and the installation of the complete change.

5.04 In cases where the request is denied, the project manager prepares a denial letter stating the reason for the denial. This letter is forwarded through the MCCs back to the originator. As each activity is begun, the MCC is notified and updates the status and the identity of the group responsible for the next activity.

5.05 Anyone interested in the status of a request can then access the MCC data base for current status. Thirty days prior to a planned release, (or longer if the change entails significant training, hardware acquisitions, etc) a release announcement is forwarded through the MCC to all OTC-MCC(s). An example of a status report is shown in Appendix 3.

6. PRODUCT RELEASE PROCEDURES

A. General

6.01 The MCC is responsible for the initial release of new systems as well as the release of product updates or changes. The release of a new system is initiated by the AT&T project manager. The release of system changes is the result of the completion of activities initiated by either a trouble report or a system change request.

6.02 This section defines the product form and method of transmittal, the OTC receipt procedures, and product support policies.

B. Form and Method of Transmittal

6.03 The CSS product form and method of transmittal to the OTCs will be program load modules via T-TRAN data communication facilities. Other documentation will either be mailed or transmitted via a facsimile device. OTCs may negotiate to receive a different product form or method of transmittal. (See Parts 7 and 8.)

C. OTC Receipt

6.04 The OTC-MCC will coordinate and monitor the installation of new products and product updates. Temporary fixes shall be applied as soon as possible to alleviate the system failure. Maintenance releases should be installed within 15 days from date of receipt and in the order in which they were provided. New releases should be installed within 30 days from the date of receipt unless the impact of the change requires extensive preparation at the OTC (ie, new hardware, training, etc). In cases where the product is not installed within the specified time limits, the OTC-MCC should notify the MCC when installation will take place. In all cases, the OTC-MCC will notify the MCC of the installation date (and cycle) when the product update was first used.

D. Temporary Fixes

6.05 The MCC will distribute the fix to the affected sites using either the T-TRAN or another remote maintenance facility as required. Associated installation documentation or emergency "documentation-only" fixes are to be transmitted via a facsimile device or orally as appropriate. In the case where a documentation change results from an orally transmitted fix, written documentation should follow within 15 days. Upon receipt of the updated package, the affected OTC should apply this fix as soon as possible.

E. System Change Product Release Flow

6.06 The PSG completes required programming, program testing, and the following parts of the release package. (See Section 007-240-211.)

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Product Update Cross-Reference Table

Implementation Introduction (if required)

Documentation Updates (CSS related)

Product Update Cover Letter

Significant Changes

Program Listings (under special conditions only)

6.07 The PSG forwards its parts of the release package to the MCC. Programming services advises the MCC of the location of the updated module(s).

6.08 The AT&T project manager has responsibility for preparing the documentation updates (PSS related) portion of the release package.

6.09 MCC has responsibility for assuring that all parts of the release package are prepared. MCC mails a copy of the release package to each affected OTC-MCC, T-TRANs, or sends tape(s) Air Freight to the OTC-MCC and mails a copy of the update cover letter and significant changes to the AT&T project manager.

6.10 When the OTC-MCC receives updated module(s) and release package, it notifies the MCC of receipt of release package and updated modules and the planned implementation date. It then distributes the release package to the appropriate organization.

6.11 When the MCC receives notification of receipt of modules, release package, and planned implementation date, it updates the data base to show that the release package and/or updated modules were received. The planned implementation date is also entered into the data base.

6.12 The OTC-MCC notifies the MCC after the OTC has completed the first run using the updated modules.

6.13 When the MCC receives notification that the release has been run in the OTC, it updates the data base to show a successful run of requested change(s).

6.14 If the MCC is not notified within 3 days after the estimated implementation date that the first successful run has been completed, the MCC contacts the OTC-MCC to determine status and, if appropriate, updates the data base accordingly.

7. CUSTOMIZED SERVICES REQUEST

7.01 When it is in the best interest of the Bell System, the AT&T Data Systems Division, as provider and maintainer of centrally developed deliverable systems, will provide the programmer and computer resources needed to satisfy the unique requirements of an OTC.

7.02 These unique requirements might include running a system on AT&T computer hardware for an OTC modifying a program to satisfy a unique regulatory agency requirement, or assistance in installing a system on outside vendor equipment.

7.03 This type of service may be requested by contacting the AT&T project manager and the Systems Planning Group at AT&T. The Systems Planning Group will assist the OTC representative in preparing a feasibility report, in securing an estimate of cost from AT&T Data Systems, and in securing the appropriate approvals.

7.04 A pattern letter that may be used to request customized services is attached as Appendix 4.

8. ADDITIONAL MAINTENANCE RESOURCES AND COSTS

8.01 The procedures for the release of source material are described in Section 007-203-110 (to be issued). The release of source material described in that BSP is not to be construed as an expansion of the maintenance responsibility of AT&T Data Systems. Whether or not source code has been released, AT&T Data Systems is responsible for the maintenance of ***only*** those source modules that support the ***load modules released by AT&T.***

8.02 If a "trouble" is reported by an OTC as a trouble caused by an AT&T released load module but analysis discloses that the problem resulted from changes made to source code by the OTC, the cost of programmer and computer time expended in diagnostic activities will be billed back to the OTC according to the prevailing rates.

8.03 A pattern letter authorizing the billing of costs incurred by AT&T Data Systems for diagnostic support is attached as Appendix 10. It must be submitted annually.