

Systems Reference Library

Version 8.1

IBM System/360 Time Sharing System Addendum

This addendum summarizes changes incorporated in the 8.1 release of the IBM System/360 Time Sharing System and presents corrections to the publications associated with that release. This addendum is a required supplement to the IBM System/360 Time Sharing System publications series.

















PREFACE

This publication is divided into two sections:

Section I: SRL Information -- This section is required reading for all TSS/360 users. It lists the current TSS/360 SRL publications and changes to these publications.

Section II: PLM Information -- This section is intended for system programmers and customer engineers. It lists the current TSS/360 PLM publications and changes to these publications.

NOTE: If a conflict is found between this publication and another TSS/360 publication, the information in this publication should be regarded as the correct specification.

<u>Twelfth Edition</u> (September 1971)

This edition, Order No. GC28-2043-12, replaces Order No. GC28-2043-11.

This edition is current with Version 8, Modification 1, and remains in effect for all subsequent versions or modifications of IBM System/360 Time Sharing System unless otherwise indicated.

A form is provided at the back of this publication for reader's comments. If the form has been removed, comments may be addressed to IBM Corporation, Time Sharing System/360 Programming Publications, Department 643, Neighborhood Road, Kingston, New York 12401.

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This section lists the TSS/360 SRL publication series and presents corrections to those publications.

TSS/360 SRL PUBLICATIONS

The TSS/360 SRL publication series has been updated to reflect specifications applicable to TSS/360 Version 8, Modification 1 and to include all the material that was formerly contained in Section II of IBM System/360 Time Sharing System: Addendum, Order No. GC28-2043-11.

Table 1 lists all SRL publications, including all TNLs and revisions to the publications, for the following releases of TSS/360:

Version 1, Modification 0
Version 1, Modification 1
Version 1, Modification 2
Version 2, Modification 0
Version 3, Modification 0
Version 4, Modification 0
Version 5, Modification 0
Version 5, Modification 1
Version 6, Modification 0
Version 7, Modification 0
Version 8, Modification 0
Version 8, Modification 1

The documents to the right of the shaded area in the table are applicable to TSS/360 Version 8, Modification 1.

No Table 1. TSS/360 SRL Series (part 1 of 2)

SRL Title	Version 1 Mod 0	Version 1 Mod 1	Version 1 Mod 2	Version 2 Mod 0	Version 3 Mod 0	Version 4 Mod 0	Version 5 Mod 0	Version 5 Mod 1	Version 6 Mod 0	Version 7 Mod 0	Version 8 Mod 0	Version 8 Mod 1
Addendum	C28-2043-0	C28-2043-1 Rev	C28-2043-2 Rev	C28-2043-3 Rev	C28-2043-4 Rev	C28-2043-5 Rev	C28-2043-6 Rev	C28-2043-7 Rev	C28-2043-9 Rev	GC28-2043-10 Rev	GC28-2043-11 Rev	GC28-2043-12 Rev
Assembler Language	C28-2000-2	N28-3000 TNL	N28-3015 TNL	NONE	N28-3034 TNL	N28-3047 TNL	NONE	NONE	C28-2000-3 Rev	GN28-3118 TNL	GN28-3142 TNL	GC28-2000-4 Rev
Assembler Programmer's Guide	C28-2032-0	N28-3012 TNL	C28-2032-1 Rev	N28-3030 TN L	C28-2032-2 Rev	N28-3037 TNL	N28-3041 TNL	NONE	C28-2032-3 Rev	GC28-2032-4 Rev	GN28-3140 TNL	GC28-2032-5 Rev
Assembler User Macro Instructions	C28-2004-1	N28-3006 TNL	N28-3020 TNL	N28-3021 TNL	C28-2004-2 Rev	N28-3038 TNL	C28-2004-3 Rev	NONE	C28-2004-4 Rev	GN28-3068 TNL	GN28-3143 TNL	GC28-2004-5 Rev
Command System User's Guide	C28-2001-1	N28-3003 TNL	N28-3013 TNL	N28-3027 TNL	C28-2001-2 Rev	C28-2001-3 Rev	C28-2001-4 Rev	NONE	GN28-3069 TNL	C28-2001-6 Rev	GN28-3136 TNL	GC28-2001-7 Rev
Concepts and Facilities	C28-2003-2	N28-3005 TNL	N28-3016 TNL	N28-3022 TNL	C28-2003-3 Rev	N28-3048 TNL	N28-3052 TNL	NONE	C28-2003-4 Rev	GN28-3126 TNL	GN28-3139 TNL	GC28-2003-5 Rev
Data Management Facilities	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	GC28-2056-0 New	NONE	GN28-3168 TNL	GC28-2056-1 Rev
IBM FORTRAN IV	C28-2007-1	NONE	N28-3007 TNL	N28-3023 TNL	N28-3036 TNL	N28-3045 (TNL) C28-2007-2 Rev*	N28-3060 TNL	NONE	N28-3061 TNL	GN28-3063 TNL	GN28-3169 TNL	GC28-2007-3 Rev
FORTRAN IV Library Subprograms	C28-2026-0	NONE	NONE	N28-3032 TNL	NONE	C28-2026-1 Rev	N28-3054 TNL	NONE	C28-2026-2 Rev	GC28-2026-3 Rev	NONE	GN28-3182 TNL
FORTRAN Programmer's Guide	C28-2025-0	N28-3011 TNL	C28-2025-1 Rev	N28-3031 TNL	C28-2025-2 Rev	N28-3039 TNL	N28-3053 TNL	NONE	C28-2025-3 Rev	GN28-3067 TNL	GN28-3141 TNL	GC28-2025-4 Rev
Independent Utilities	C28-2038-0	N28-3002 TNL	NONE	N28-3024 TNL	N28-3033 TNL	NONE	C28-2038-1 Rev	NONE	N28-3056 TNL	GN28-3070 TNL	GN28-3158 TNL	GC28-2038-2 Rev
Introducing TSS/360	NONE	NONE	NONE	NONE	NONE	C28-2048-0 New	C28-2048-1 Rev	NONE	C28-2048-2 Rev	GC28-2048-3 Rev	GC28-2048-4 Rev	NONE
Linkage Editor	C28-2005-1	N28-3001 TNL	NONE	N28-3025 TNL	C28-2005-2 Rev	N28 - 3040 TNL	N28-3055 TNL	NONE	C28-2005-3 Rev	GN28-3117 TNL	NONE	GC28-2005-4 Rev
Manager's and Administrator's Guide	C28-2024-0	N28-3004 TNL	NONE	N28-3026 TNL	C28-2024-1 Rev	NONE	C28-2024-2 Rev	NONE	C28-2024-3 Rev	GN28-3071 TNL	GN28-3135 TNL	GC28-2024-4 Rev
Master Index	NONE	C28-2023-0	NONE	NONE	C28-2023-1 Rev	NONE	NONE	NONE	GC28-2023-2 Rev	GC28-2023-3 Rev	NONE	NONE
MTT Programming and Operation	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	C28-2034-0 New	GN28-3064 TNL	GC28-2034-1 Rev	GN28-3184 TNL V

^{*} Minor revision incorporating TNLs to earlier versions.

Subsequent TNLs apply to either this edition or previous edition with TNLs included.

Rev = Revision TNL = Technical Newsletter

Table 1. TSS/360 SRL Series (part 2 of 2)

SRL Title	Version 1 Mod 0	Version 1 Mod 1	Version 1 Mod 2	Version 2 Mod 0	Version 3 Mod 0	Version 4 Mod 0	Version 5 Mod 0	Version 5 Mod 1	Version 6 Mod 0	Version 7 Mod 0	Version 8 Mod 0	Version 8 Mod 1
Operator's Guide	C28-2033-0	C28-2033-1 Rev	N28-3014 TNL	C28-2033-2 Rev	C28-2033-3 Rev	C28-2033-4 Rev	C28-2033-5 Rev	NONE	C28-2033-6 Rev	GN28-3065 TNL	GC28-2033-7 Rev	GC28-2033-8 Rev
PL/1 Library Computational Subroutines	NONE	NONE	NONE	NONE	NONE	C28-2046-0 New	NONE	NONE	NONE	GC28-2046-1 Rev	NONE	NONE
PL/I Programmer's Guide	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	GC28-2049-0 New	GN28-3160 TNL	GC28-2049-1 Rev
PL/I Language Reference Manual	NONE	NONE	NONE	NONE	NONE	C28-2045-0 New	NONE	NONE	NONE	GC28-2045-1 Rev	GN28-3171 TNL	GN28-3185 TNL
Quick Guide for Users	NONE	NONE	NONE	NONE	NONE	NONE	X28-6400 New	NONE	X28-6400-1 Rev	GX28-6400-2 Rev	GN28-3172 TNL	NONE
Quick Guide for System Programmers	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	X28-6401-0 New	GX28-6401-1 Rev	GN28-3173 TNL	NONE
Remote Job Entry	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	GC28-2057-0 New	GN28-3163 TNL	GC28-205 9 -1 Rev
System Generation and Maintenance	C28-2010-0	N28-3009 TNL	C28-2010-1 Rev	C28-2010-2 Rev	C28-2010-3 Rev	N28-3042 TNL	C28-2010-4 Rev	NONE	N28-3051 TNL	GC28-2010-5 Rev	GN28-3147 TNL	GC28-2010-6 Rev
System Messages	C28-2037-0	C28-2037-1 Rev	N28-3017 TNL	C28-2037-2 Rev	C28-2037-3 Rev N28-3046 TNL	N28-3049 TNL	C28-2037-4 Rev	NONE	C28-2037-5 Rev	GC28-2037-6 Rev GN28-3137 TNL**	GN28-3165 TNL	GC28-2037-7 Rev
System Programmer's Guide	C28-2008-0	N28-3008 TN1	N28-3018 TNL	N28-3028 TNL	N28-3035 TNL	C28-2008-1 Rev	N28-3057 TNL	NONE	C28-2008-2 Rev	GN28-3127 TNL	GN28-3145 TNL	GC28-2008-3 Rev
Terminal User's Guide	C28-2017-1	N28-3010 TNL	NONE	N28-3029 TNL	C28-2017-2 Rev	N28-3044 TNL	C28-2017-3 Rev	NONE	N28-3059 TNL	GN28-3066 TNL	NONE	GC28-2017-4 Rev
Test and Maintenance User's Guide	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	GC28-2028-0 New	NONE	GN28-3198 TNL
Time Sharing Support System	NONE	NONE	NONE	NONE	C28-2006-0 New	N28-3043 TNL	NONE	NONE	N28-3062 TNL	NONE	GN28-3144 TNL	GC28-2006-1 Rev

^{*}Minor revision incorporating outstanding TNLs to earlier versions. Subsequent TNLs apply to either this edition or previous edition with TNLs included.

Rev = Revision TNL = Technical Newsletter

CORRECTION TO PL/I PROGRAMMER'S GUIDE

The description of "Nonconversational SYSIN Data Set" should include this note:

If the last nonblank character in a data record from SYSIN is a hyphen, the system recognizes the next line as a continuation. The hyphen is not entered as part of the line.

Records that end with hyphens can be processed in one of two ways.

- 1. Put the data in a prestored data set so that the hyphens are treated as data.
- 2. Issue an MCAST command to change the default value of the continuation character; the hyphens will then be treated as data. An MCAST command should be issued after executing the PL/I program to change the continuation character back to a hyphen for system commands and PROCDEFs.

CORRECTION TO SYSTEM MESSAGES

The following system error message should appear in Part II:

040203601

Explanation: The command status word (CSW) status bytes are zero.

Reference Data (Also see Appendix B-02.)

Requirement determined by: CZCRT Variable data supplied by: CZCRT

The following two messages should appear in Part IV.

CZAGC005 PROCEEDING: EXTERNAL STORAGE PROBLEM

Explanation: The DSCB page was unreadable. All T-BLOCKs on the page were ignored.

Filter Code: WSA

Conversational Action

User: N/A

System: Awaits next command

Nonconversational Action

User: N/A

System: Continues processing

Reference Data (Also see Appendix B-12,)

Requirement determined by: CZAGC Variable data supplied by: N/A

CZAGC007 INVALID MODE PARAMETER. REENTER A OR S, OR DEFAULT

Explanation: The supplied mode parameter was invalid (must be A or S). Enter A to update the entire SYSUSE, or S to update only those entries that were active when the system stopped. The default value is A.

Filter Code: WSA

Conversational Action

User: Enters A, S, or defaults System: Awaits next command

Nonconversational Action

User: N/A

System: Continues processing

Reference Data (Also see Appendix B-12.)

Requirement determined by: CZAGC Variable data supplied by: N/A

This section lists the TSS/360 PLM publication series and presents corrections to those publications.

TSS/360 PROGRAM LOGIC MANUALS

The TSS/360 PLM publication series has been updated to reflect specifications applicable to TSS/360 Version 8, Modification 1 and to include all the material that was formerly contained in Section III of IBM System/360 Time Sharing System: Addendum, Order No. GC28-2043-11.

Table 2 lists publications containing detailed program logic information including TNLs and revisions to the publications, for the following releases of TSS/360:

Version 1, Modification 0 Version 1, Modification 1 Version 1, Modification 2 Version 2, Modification 0 Version 3, Modification 0 Version 4, Modification 0 Version 5, Modification 0 Version 5, Modification 1 Version 6, Modification 0 Version 7, Modification 0 Version 8, Modification 0 Version 8, Modification 1

The documents to the right of the shaded area in the table are applicable to TSS/360 Version 8, Modification 1.

Table 2. TSS/360 PLM Series

PLM - Title	Version 1 Mod 0	Version 1 Mod 1	Version 1 Mod 2	Version 2 Mod 0	Version 3 Mod 0	Version 4 Mod 0	Version 5 Mod 0	Version 5 Mod 1	Version 6 Mod 0	Version 7 Mod 0	Version 8 Mod 0	Version 8 Mod 1
Access Methods	Y28-2016-0	Y28-3055 TNL	Y28-3064 TNL	Y28-2016-1 Rev	Y28-3084 TNL	Y28-3088 TNL	Y28-2016-2 Rev	NONE	Y28-2016-3 Rev	GN28-3123 TNL	GN28-3151 TNL	GY28-2016-4 Rev
Assembler	Y28-2021-0	Y28-3058 TNL	Y28-3067 TNL	Y28-3080 TNL	NONE	NONE	Y28-2021-1 Rev	NONE	Y28~3100 TNL	GN28-3129 TNL	GN28-3138 TNL	GY28-2021-2 Rev
Command System	Y28-2013-0	Y28-3053 TNL	Y28-3065 TNL	Y28-3075 TNL	Y28-2013-1 Rev	Y28-2013-2 Rev	Y28-2013-3 Rev	NONE	Y28-2013-4 Rev	GY28-2013-5 Rev	GN28-3164 TNL	GY28-2013-6 Rev
Dynamic Loader	Y28-2031-0	NONE	Y28-3063 TNL	Y28-3076 TNL	Y28-3086 TNL	Y28-2031-1 Rev	Y28-3104 TNL	NONE	Y28-2031-2 Rev	GN28-3128 TNL	NONE	GY28-2031-3 Rev
FORTRAN IV Compiler	Y28-2019-0	Y28-3057 TNL	Y28-3068 TNL	Y28-3082 TNL	Y28-3087 TNL	Y28-3091 TNL	Y28-3097 TNL	NONE	Y28-2019-1 Rev	NONE	GN28-3167 TNL	GN28-8190 TNL
FORTRAN IV Library Subprograms	NONE	NONE	NONE	NONE	NONE	NONE	Y28-2020-0 New	NONE	Y28-3101 TNL	GY28-2020-1 Rev	GN28-3153 TNL	GY28-2020-2 Rev
Independent Utilities	Y28-2039-0	Y28-3060 TNL	Y28-2039-1 Rev	Y28-3073 TNL	NONE	NONE	Y28-2039-2 Rev	NONE	Y28-2039-3 Rev	NONE	GN28-3134 TNL	GN28-3176 TNL
Linkage Editor	Y28-2030-0	Y28-3059 TNL	NONE	NONE	Y28-2030-1* Rev	Y28-3083 TNL	Y28-3098 TNL	NONE	Y28-3103 TNL	GN28-3116 TNL	NONE	GY28-2030-2 Rev
On-Line Test Control Program	Y28-2042-0	Y28-2042-1 Rev	Y28-3069 TNL	NONE	NONE	NONE	NONE	NONE	Y28-2042-2 Rev	NONE	GN28-3159 TNL	NONE
Operator Task and Bulk I/O	NONE	NONE	NONE	NONE	NONE	NONE	Y28-2047-0 New	Y28-2047-1 Rev	Y28-2047-2 Rev	GY28-2047-3 Rev	GN28-3133 TNL	GY28-2047-4 Rev
PL/I Compiler	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	GY28-2051-0 New	GN28-3161 TNL	GN28-3191 TNL
PL/I Library Subroutine	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	GY28-2052-0 New	GN28-3162 TNL	GN28-3192 TNL
Program Control System	Y28-2014-0	Y28-3054 TNL	Y28-3066 TNL	Y28-3078 TNL	Y28-2014-1 Rev	NONE	Y28-3099 TNL	NONE	Y28-3114 TNL	GN28-3115 TNL	GN28-3166 TNL	GY28-2014-2 Rev
Resident Supervisor	Y28-2012-0	Y28-3052 TNL	Y28-3062 TNL	Y28-3081 TNL	Y28-2012-1 Rev	Y28-2012-2 Rev	Y28-2012-3 Rev	NONE	Y28-2012-4 Rev	GN28-3131 TNL	GN28-3149 TNL	GY28-2012-5 Rev
System Control Blocks	Y28-2011-0	Y28-2011-1 Rev	Y28-2011-2 Rev	Y28-3074 TNL	Y28-2011-3 Rev	Y28-3092 TNL	Y28-2011-4 Rev	NONE	Y28-3109 TNL	GY28-2011-5 Rev	GN28-3170 TNL	GY28-2011-6 Rev
System Generation and Maintenance	Y28-2015-0	Y28-2015-1 Rev	Y28-3072 TNL	Y28-2015-2 Rev	Y28-2015-3 Rev	Y28-3093 TNL	Y28-2015-4 Rev	NONE	Y28-2015-5 Rev	GN28-3106 TNL	GN28-3150 TNL	GY28-2015-6 Rev
System Logic Summary	Y28-2009-0	Y28-3051 TNL	Y28-3061 TNL	Y28-3079 TNL	Y28-2009-1 Rev	Y28-3094 TNL	Y28-3102 TNL	NONE	Y28-3111 TNL Y28-3112 TNL	GY28-2009-2 Rev	GN28-3146 TNL	GN28-3193 TNL
System Service Routines	Y28-2018-0	Y28-3056 TNL	Y28-3070 TNL	Y28-3077 TNL	Y28-3089 TNL	Y28-3095 TNL	Y28-2018-1 Rev	NONE	Y28-2018-2 Rev	GN28-3124 TNL	GN28-3152 TNL	GY28-2018-3 Rev
Task Monitor	Y28-2041-0	Y28-3050 TNL	Y28-3071 TNL	Y28-2041-1 Rev	Y28-3085 TNL Y28-3096 TNL	NONE	Y28-2041-2 Rev	NONE	Y28-3113 TNL	GN28-3130 TNL	GY 28-2041-3 Rev	GY28-2041-4 Rev
Time Sharing Support System	NONE	NONE	NONE	NONE	Y28-2022-0 New	Y28-3090 TNL	Y28-3105 TNL	NONE	Y28-2022-1 Rev	GN28-3122 TNL	GN28-3154 TNL	GY28-2022-2 Rev

^{*}Minor revision incorporating outstanding TNLs to earlier version. Subsequent TNLs apply to either this edition or previous edition with TNLs included.

Rev = Revision

TNL= Technical Newsletter

CHANGE TO ON-LINE TEST SYSTEM PROGRAM LOGIC MANUAL

The following note should appear on page 1.

The TSS/360 On-Line diagnostic facility (OLTS) does not provide a capability for testing the IBM 2780 or the IBM 2701.

CHANGE TO RESIDENT SUPERVISOR PROGRAM LOGIC MANUAL

Following is a description of Supervisor Paging Subroutine (CEAMQ), a new module.

Supervisor Paging Subroutine (CEAMQ)

This subroutine pages in page table pages and other virtual memory pages.

Entries:

CEAMQA - External entry point used for paging requests.

CEAMQB - Scan table entry point used for reentry when
the 'paging requests pending count' field in
the TSI becomes zero.

Modules Called: Dequeue GQE (CEAJQ entered at CEAJDE) removes a GOE from the scan table.

Enqueue GQE (CEAJQ entered at CEAJEN) queues a GQE on the scan table.

Supervisor Core Allocation (CEAL01) allocates main storage for a GQE/PCB.

Supervisor Core Release (CEAL02) releases main storage when it is no longer needed.

Locate Page (CEAMLQ) finds the address of a virtual memory page.

Exits:

Normal - To the Queue Scanner for a type A call; to the caller for any other type.

Error - To the caller.

Operation: This routine is called for four different
operations, as follows:

Type A - This portion of the subroutine reads in a virtual memory address or page table page, returning to the caller only if an error condition is encountered.

If the page table page is not in main storage, a GQE/PCB is set up to read it in. Another GQE is set up and queued on the task status index so that when the 'paging requests pending' count becomes zero CEAMQ will again receive control (this time, at CEAMQB).

If the page table page is in main storage a GQE/PCB is set up to read the page associated with the virtual memory address on reentry. Exit is to the queue scanner.

Type B - This portion of the subroutine reads a page table page.

If the requested page table pages are not in main storage, a GQE/PCB is set up to read them în. The GQE is then queued on the TSI, in order to cause a return to CEAMQ at CEAMQB when the 'paging requests pending' count becomes zero.

Type C - This portion of the subroutine reads a page table page into main storage if necessary, and places the page associated with that page table page in I/O hold.

If the page table is not in main storage, a GQE/PCB is set up to read it in. If it is already in main storage, the page associated with the virtual memory address is checked to see if it, too, is in main storage. If it is, it is placed in I/O hold. If it is not, it is placed in I/O hold and a GQE/PCB is set up to read it in. When processing is complete, if any GQEs have been set up, a GQE is queued on the TSI so that CEAMQ will be reentered at CEAMQB.

Type D - This portion of the subroutine is used to obtain main storage from User Core Allocation (CEAMB) to build page tables.

A GQE/PCB is built to cause User Core Allocation to be called in order to provide main storage for a page table. The GQE will cause control to be returned to CEAMQB.

Types B and C can process both lists and single entries.

When CEAMQB receives control for types A and B, the same logic is used to read in pages as was used on entry to CEAMQA to read in page tables. The same logic is also used on reentry for type C, except that pages are not placed in I/O hold. When control returns to CEAMQB for a type D call, the Paging subroutine returns to the calling routine.

CHANGE TO SYSTEM LOGIC SUMMARY

The following illustration replaces Figure 98.

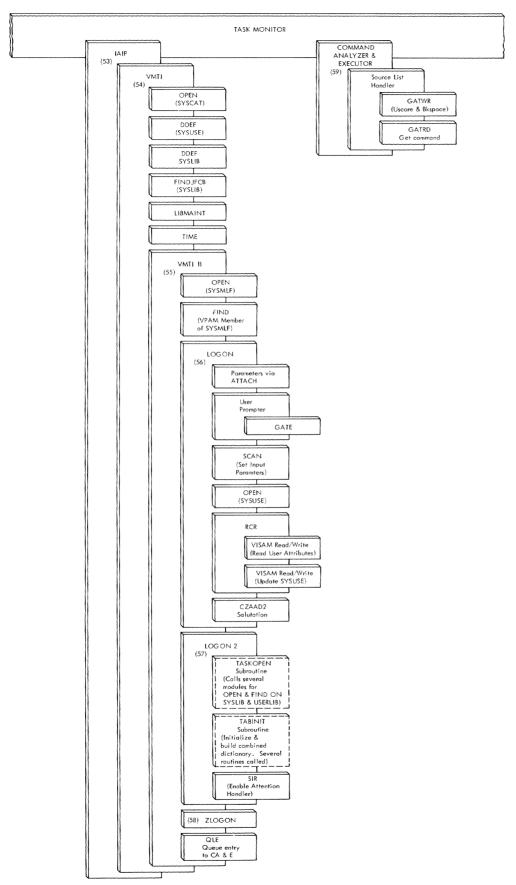


Figure 98. Conversational Task Example

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Addendum

International Business Machines Corporation
Data Processing Division
1133 Westchester Avenue, White Plains, New York 10604
[U.S.A. only]

IBM World Trade Corporation 821 United Nations Plaza, New York, New York 10017 [International]