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INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume V - Common Data Model Subsystem
Part 22 - Neutral Data Manipulation Language (NDML) Precompiler
Build Calls and Messages Product Specification

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FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

<u>SUBCONTRACTOR</u>	<u>ROLE</u>
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.
Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface, and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

TABLE OF CONTENTS

	<u>Page</u>
SECTION 1.0	SCOPE 1-1
1.1	Identification 1-1
1.2	Functional Summary 1-1
SECTION 2.0	DOCUMENTS 2-1
2.1	Reference Documents 2-1
2.2	Terms and Abbreviations 2-1
SECTION 3.0	REQUIREMENTS 3-1
3.1	Structural Description 3-1
3.2	Functional Flow 3-1
3.3	Interfaces 3-2
3.3.1	Inputs/Outputs 3-2
3.4	Program Interrupts 3-3
3.5	Timing and Sequencing Description 3-3
3.6	Special Control Features 3-3
3.7	Storage Allocation 3-3
3.7.1	Database Definition 3-3
3.7.1.1	File Description 3-3
3.7.1.2	Table Description 3-3
3.7.1.3	Item Description 3-3
3.8	Object Code Creation 3-3
3.9	Adaptation Data 3-4
3.10	Detail Design Description 3-4
3.10.1	Where Include File Used List 3-4
3.10.2	Where External Routine Used List .. 3-17
3.10.3	Main Program Parts List 3-30
3.10.4	Module Documentation 3-45
3.10.5	Include File Description 3-95
3.10.6	Hierarchy Chart 3-105
3.11	Program Listings Comments 3-130
SECTION 4.0	QUALITY ASSURANCE PROVISIONS 4-1
4.1	Introduction and Definitions 4-1
4.2	Computer Programming and Test Evaluation 4-1

SECTION 1

SCOPE

1.1 Identification

This specification establishes the design of Function PRE10, "Build Calls Messages into the Users AP", one of the major functions of the Configuration Item "Precompiler" to be built and formally accepted by the ICAM Program Office. This CI constitutes one of the subsystems of the Common Data Model Processor (CDMP).

1.2 Functional Summary

The purpose of this Computer Program Configuration Item (CPCI) is to generate into the User Application process code to assemble tables and parameters needed by both the Distributed Request Supervisor and conceptual to external transformer to satisfy an NDML request.

The following functions will be performed by the CPCI:

1. Generate working storage for external schema variables to hold the ES results in the user specified structure or variables, and temporary conceptual schema variables necessary for the transformation.
2. Generate working storage variables to hold the precompile tables namely the Join Query Graph, Attribute Pair List, results table and conceptual schema Action List to satisfy the NDML request.
3. Generate Working Storage and Procedure Division statements for domain and assertion checks.
4. Generate Procedure Division statements to call the DRS, return with the results and call the conceptual to external transformer and move the ES results into the user variables or structure.

SECTION 2
DOCUMENTS

2.1 Reference Documents

1. ICAM Documentation Standards: IDS15012000A, 28 December 1981.
2. D. Appleton Co., CDM Administrators Manual: UM620141000, March, 1984.
3. D. Appleton Co., CDM1-IDEF, Model of the Common Data Model: CCS620141000, 15 May, 1985.
4. D. Appleton Co., Computer Program Development Specification (DS) for ICAM Integrated Support System (IISS) Configuration Item: NDML Precompiler: DS620141200, October, 1984
5. D. Appleton Co., Embedded NDML Programmers Reference Manual: PRM620141200, March, 1985
6. Softech, Inc., NTM Programmers Guide: UM620140001, July 1984.
7. Control Data Corp., Computer Program Development Specification (DS) for ICAM Integrated Support System (IISS) Configuration Item: NDDL Command Processor: DS620141100, June 1985.

2.2 Terms and Abbreviations

Attribute Use Class: (AUC)

Conceptual Schema: (CS)

Common Data Model Processor: (CDMP)

Common Data Model: (CDM) Describes common data application process formats, form definitions, etc, of the IISS and includes conceptual schema, external, internal schemas, and schema transformation operators.

Data Field: (DF) An element of data in the external schema. It is by this name that an NDML programmer references data.

Database Management System: (DBMS)

Distributed Request Supervisor: (DRS) This IISS CDM subsystem configuration item controls the execution of distributed NDML queries and non distributed updates.

Domain: A logical definition of legal attribute class values.

Domain Constraint: Predicate that applies to a single domain.

External Schema: (ES)

Forms: Structured views which may be imposed on windows or other forms. A form is composed of fields where each field is a form, item, or window.

Forms Processor: (FP) A set of callable execution time routines available to an application program for form processing.

Internal Schema: (IS)

Integrated Information Support System: (IISS) A test computing environment used to investigate, demonstrate and test the concepts of information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous databases supported by heterogeneous computers interconnected via a local Area Network.

Mapping: The correspondence of independent objects in two schemas: ES to CS or CS to IS.

Network Transaction Manager: (NTM) Performs the coordination, communication and housekeeping functions required to integrate the application processes and system services resident on the various hosts into a cohesive system.

Neutral Data Manipulation Language: (NDML) A language developed by the IISS project to provide uniform access to common data, regardless of database manager or distribution criteria. It provides distributed retrieved and single node updates.

ORACLE: Relational DBMS based on the SQL (Structured Query Language, a product of ORACLE Corp, Menlo Park, CA). The CDM is an ORACLE database.

Parcel: A sequential file containing sections of source code of the input Application Program.

Request Processor: (RP) A COBOL program that will satisfy a retrieval or update NDML subtransaction against a particular Database Management System.

User Interface: (UI) Controls the user's terminal and interfaces with the rest of the system.

Virtual Terminal Interface: (VTI) Performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by UI software which constitutes the Virtual

PS 620341258
30 September 1990

Terminal Definition. Specific terminals are then mapped against the Virtual Terminal software by specific software modules written for each type of real terminal supported.

SECTION 3
REQUIREMENTS

3.1 Structural Description

The graphic portrayal of this CPCI is included in Section 3.10. This chart shows the hierarchical relationship of each module making up this CPCI.

This CPCI is identified as module CP10 and uses a number of lower level modules to handle specific operations such as:

1. Generate working storage for data definitions for Delete, Modify and Qualify data values (CDECWS).
2. Generate working storage for data definitions for insert values (CDP10E).
3. Generate working storage variables to hold ES results (CDP10F).
4. Generate the precompile tables needed by the Distributed Request Supervisor (DRS) into the Users AP, and Procedure division statements to move the results (CDP10B).
5. Generate the Working Storage and Procedure Division statements to perform domain and assertion verification (CDCONS).
6. Generate Procedure Division statements for transforming the external to conceptual and, if necessary, generate working storage if an algorithm was required to do the transformation (CDEC).
7. Control the processing logic to call routines to transform Working Storage and Procedure Division statements from conceptual to external (CDP10A).
8. Generate the final ES Results into user specified structure, variables or a file.

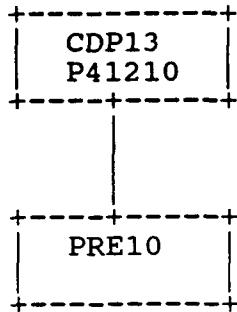
3.2 Functional Flow

This CPCI implemented the logic defined in the Development Specification for this CPCI. Details of inputs/outputs and relationships between modules are found in Section 3.10.

This CPCI has been designated to operate in a batch or interactive mode. It must operate in the system environment established for IISS; that is, the Network Transaction Manager. It currently can only be executed on the DEC VAX due to the dependence on the VAX sort although this can be changed for execution on the IBM.

3.3 Interfaces

The following diagram depicts the interface of this CPCl,
PRE10 with other CPCl's in the system.



3.3.1 Inputs/Outputs

The following table depicts the inputs and outputs of this CPCl. A detailed description for each item can be found in the DS for this CPCl.

FUNCTION: PRE10

INPUT	OUTPUT
External Schema Action List	Module Status
External Schema Qualify List	
Conceptual Schema Action List	
Conceptual Schema Qualify List	
Internal Schema Action List	
Internal Schema Qualify List	
Join Query Graph	
JQG Attribute Pair List	
Results Field Table	
Subtrans Process ID table	
Code Generator Table	
IDFile Name	
FDFFile Name	
Working Storage File Name	
Procedure Division File Name	
Error File	
CS-ES Mod Name	
CS-CS Mod Name	
Source Language	
Block Stack	
Logical Unit of Work	
First Inner Select Indicator	
Fortran Variable Table	
Target Host	
Embedded Language	
Cursor Table	
Whenever Table	
User View Abbreviation List	

3.4 Program Interrupts

Not applicable to the CPCI.

3.5 Timing and Sequencing Description

This CPCI is called for each NDML statement to generate calls to the Distributed Request Supervisor and/or Conceptual to External transformer, so the results may be returned in the manner the user specified.

3.6 Special Control Features

Not applicable to this CPCI.

3.7 Storage Allocation

3.7.1 Database Definition

The database used by this CPCI is the Common Data Model (CDM) database. The model is defined by the CDM1, the IDEF-1 model of the CDM, Reference Document Number 3.

3.7.1.1 File Description

No permanent files have been defined for this CPCI. It may use temporary scratch files for such things as input and results.

3.7.1.2 Table Description

All tables used by this CPCI have been defined by the Development Specification for this CPCI.

3.7.1.3 Item Description

Not applicable to this CPCI.

3.8 Object Code Creation

The object code for this CPCI will be created by the system integration team using defined IISS Software Configuration Management Procedures. This CPCI will use the COBOL, FORTRAN, and C language compilers.

3.9 Adaptation Data

This CPC1 has been coded using ANSI COBOL language. The intent was to provide a transportable system. Any system environment supporting this language, a virtual memory management schema, the COMM and NTM subsystems of IISS and the ORACLE Database Management System should be able to support this CPC1. Every possible attempt has been made to localize and identify any machine or environment dependent modules through the original design of the IISS and application of Configuration Management Procedures.

3.10 Detail Design Description

The following sections have been computer generated for this CPC1.

3.10.1 Where Include File Used List

The following lists each include file in the documentation group and all the modules documented in this specification which include them. The purpose of each module is listed as well.

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
ERRCDM	CD2NEC CD2SEL CDARIT CDASEL CDAUC CDCAT CDCDQ CDCONS CDCREFO CDCRIT CDEC CDECWS CDELIS CDERC CDGETOF CDP10 CDP10A CDP10B CDP10C CDP10E CDP10F CDP10S CDP10T CDPR7SL CDUEMV CDVERLW CDZDEL COLCHK COMPKEY CURLCNT

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	NKOATT
	P5INATT
	P5XREF
	PROCVAR
	PROEXEC
	ROJCHK
	ROJFLD
	SQLFILE
ERRFS	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCONS
	CDCRIT
	CDEC
	CDECWS
	CDELIS
	CDERC
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDP10S
	CDP10T
	CDPR7SL
	CDUEMV

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	CDZDEL
	COMPKEY
	NKOATT
	ROJCHK
	ROJFLD
EOD	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
TXLIST	CD2NEC
	CDAUC
	CDCDQ
	CDCRIT

PS 620341258
30 September 1990

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
ESAL	CD2NEC CD2SEL CDARIT CDASEL CDAUC CDCDQ CDCRIT CDECWS CDP10 CDP10A CDP10C CDP10E CDP10F CDP10T CDUEMV CDZDEL
ESQUAL	CD2NEC CD2SEL CDARIT CDASEL CDAUC CDCDQ CDCRIT CDECWS CDP10 CDP10A CDUEMV CDZDEL
UVABBR	

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDP10A
	CDZDEL
	COLCHK
CGTABLE	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDP10A
	CDP10T
	CDZDEL
APL	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	CDP10
	CDP10B
	CDP10S
	CDZDEL
RFTABLE	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDP10B
	CDP10S
	CDZDEL
BLSTACK	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDP10T
	CDZDEL
FORVAR	CD2NEC
	CD2SEL
	CDARIT

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	CDASEL
	CDAUC
	CDCDQ
	CDCONS
	CDCREFO
	CDCRIT
	CDEC
	CDECWS
	CDGETOF
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDP10S
	CDP10T
	CDUEMV
	CDZDEL
CSAL	CD2NEC
	CDARIT
	CDAUC
	CDCDQ
	CDCONS
	CDCRIT
	CDECWS
	CDP10
	CDP10A
	CDP10B
	CDP10F

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	CDP10S
	CDP10T
	CDUEMV
	CDZDEL
CSQUAL	CD2NEC
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCONS
	CDCRIT
	CDECWS
	CDP10
	CDP10A
	CDUEMV
CURTAB	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDECWS
	CDP10
	CDP10A
	CDP10F
	CDP10T
	CDZDEL
WHENTAB	

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCDQ
	CDCRIT
	CDP10
	CDZDEL
ERRPRO	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCDQ
	CDCONS
	CDCREFO
	CDCRIT
	CDEC
	CDECWS
	CDELIS
	CDERC
	CDGETOF
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	CDP10S
	CDP10T
	CDPR7SL
	CDUEMV
	CDVERLW
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
CSALX	CD2SEL
	CDASEL
CSQUALX	CD2SEL
	CDZDEL
TYP2TB	CD2SEL
	CDELIS
CSQVAR	CD2SEL
	CDASEL
	CDZDEL
BOOLST	CD2SEL
	CDARIT
	CDASEL
	CDAUC

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
SBSTLST	CDCDQ CDZDEL
LANGNO	CDCONS CDP10 CDP10A CDP10B CDP10S CDP10T
MACCALL	CDCONS CDP10 CDP10A CDP10B CDP10C CDP10E CDP10F CDUEMV
CHKCDM	CDCREFO CDGETOF CDP10 CDP10B

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
	CDP10S
	CDP10T
	CDPR7SL
	CDVERLW
	P5INATT
	ROJFLD
ESREC	CDECWS
DELCAT	CDELIS
	CDERC
	CDZDEL
ISAL	CDP10
	CDP10A
	CDP10B
ISQUAL	CDP10
	CDP10A
JQGTBL	CDP10
	CDP10B
SUBPROC	CDP10
	CDP10A
P5COMKY	COMPKEY
P5NKATT	NKOATT
P5DFS	P5XREF

DOCGROUP PS41258 Where-include-file-used List

Include File	Module Name
-----	-----
P5ECINF	ROJCHK
P5ROJ	ROJCHK ROJFLD
TOKSTRT	CURLCNT PROCVAR
PCOMM	CURLCNT PROCVAR

3.10.2 Where External Routine Used List

The following lists each external function or routine in the documentation group and all the documented modules which call it. The purpose of each module is listed as well.

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
SQLSCA	CD2NEC CD2SEL CDARIT CDASEL CDAUC CDCAT CDCONS CDCRIT CDEC CDELIS CDERC CDPR7SL CDZDEL COLCHK COMPKEY NKOATT P5INATT P5XREF ROJCHK ROJFLD
SQLBS1	CD2NEC CD2SEL CDARIT CDASEL CDAUC CDCAT CDCONS CDCRIT CDEC

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLSCH	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK

DOCGROUP PS41258 Where-external-routine-used List

System Module -----	Module Name -----
SQLSCC	ROJFLD CD2NEC CD2SEL CDARIT CDASEL CDAUC CDCAT CDCONS CDCRIT CDEC CDELIS CDERC CDPR7SL CDZDEL COLCHK COMPKEY NKOATT P5INATT P5XREF ROJCHK ROJFLD
SQLTOC	CD2NEC CD2SEL CDARIT CDASEL CDCONS CDEC CDELIS CDERC

PS 620341258
30 September 1990

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
SQLSQ	CDPR7SL CDZDEL COLCHK COMPKEY NKOATT P5XREF ROJCHK ROJFLD
SQLADR	CD2NEC CD2SEL CDARIT CDASEL CDAUC CDCAT CDCONS CDCRIT CDEC CDELIS CDERC CDPR7SL CDZDEL COLCHK COMPKEY NKOATT P5INATT P5XREF ROJCHK ROJFLD
	CD2NEC

DOCGROUP PS41258 Where-external-routine-used List

System Module -----	Module Name -----
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLAB1	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLEXE	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
SQLCLS	

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDCONS
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COMPKEY
	NKOATT
	P5XREF
	ROJCHK
	ROJFLD
SQLAD1	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
SQLFCH	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
	CD2NEC
	CD2SEL
	CDARIT
	CDASEL
	CDAUC
	CDCAT
	CDCONS
	CDCRIT
	CDEC
	CDELIS
	CDERC
	CDPR7SL
	CDZDEL
	COLCHK
	COMPKEY
	NKOATT
	P5INATT
	P5XREF
	ROJCHK
	ROJFLD
ERRPRO	CD2NEC
	CD2SEL
	CDARIT
	CDASEL

DOCGROUP PS41258 Where-external-routine-used List

System Module -----	Module Name -----
	CDAUC
	CDCAT
	CDCDQ
	CDCONS
	CDCREFO
	CDCRIT
	CDEC
	CDECWS
	CDELIS
	CDERC
	CDGETOF
	CDP10
	CDP10A
	CDP10B
	CDP10C
	CDP10E
	CDP10F
	CDP10S
	CDP10T
	CDPR7SL
	CDUEMV
	CDVERLW
	CDZDEL
	COLCHK
	COMPKEY
	CURLCNT
	NKOATT
	P5INATT
	P5XREF
	PROCVAR
	PROEXEC

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
CDPRES	ROJCHK ROJFLD SQLFILE
CDCMD	CD2SEL CDARIT CDASEL CDCDQ CDZDEL
CDMQAL	CD2SEL CDARIT CDASEL CDCDQ CDZDEL
CDPBL	CD2SEL CDARIT CDASEL CDCDQ CDZDEL
SQLTFL	CDAUC CDCAT CDCRIT

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
SQLOPN	CDEC P5INATT
CDGTN	CDAUC CDCAT CDCRIT CDEC P5INATT
OUTFIL	CDCONS CDP10
RPTERR	CDCONS CDEC CDECWS CDP10 CDP10A CDP10B CDP10C CDP10E CDP10F CDP10S CDP10T CDUEMV CURLCNT PROCVAR PROEXEC SQLFILE
	CDCONS CDP10

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
-----	-----
	CDP10T
	CDPR7SL
	COLCHK
	COMPKEY
	NKOATT
	PROCVAR
	ROJCHK
	ROJFLD
CDMACR	CDCONS
	CDP10
	CDP10B
	CDP10S
	CDP10T
CDPIC	CDEC
	CDECWS
	CDP10E
	CDP10F
CDF1RP	CDP10A
APNAME	CDP10T
CDPRE8	CDP10T
CDLKLWU	CDVERLW
CDINSLW	CDVERLW
CDORCSP	CDDBMSS

DOCGROUP PS41258 Where-external-routine-used List

System Module	Module Name
CDINGSP	CDDBMSS
INPFIL	CURLCNT PROCVAR PROEXEC SQLFILE
STRNCMP	CURLCNT PROCVAR PROEXEC SQLFILE
STRNCPY	CURLCNT PROCVAR PROEXEC SQLFILE
STRCPY	CURLCNT PROCVAR PROEXEC SQLFILE
SSCANF	CURLCNT PROCVAR
UNPLINE	PROCVAR
SPRINTF	PROCVAR

3.10.3 Main Program Parts List

The following lists each Main Program in the documentation group and all the modules which are called either by that module itself or by any of the documented modules which it calls. It is possible for a non-main module to be listed more than once if it is called by multiple modules. The called modules, in this case known as program parts, are marked as to whether they are documented here. If so, the phrase "well-defined module" appears by the module name, if not it is an "external "routine". The Purpose of the Main Program module is listed as well.

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CD2NEC	SQLSCA SQLBS1 SQLSCH SQLSCC SQLTOC SQLOSQ SQLADR SQLAB1 SQLEXE SQLCLS SQLAD1 SQLFCH CDCDQ ERRPRO	External routine External routine Well-defined module External routine
CD2SEL	SQLSCA SQLBS1 SQLSCH SQLSCC SQLTOC SQLOSQ SQLADR SQLAB1 SQLEXE SQLCLS SQLAD1 SQLFCH ERRPRO CDPRE5 CDCMD	External routine External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CDARIT	CDMQAL	External routine
	CDPBL	External routine
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	CDPRE5	External routine
	CDCMD	External routine
	CDMQAL	External routine
	CDPBL	External routine
CDASEL	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
SQLCLS	External routine	

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CDAUC	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	CDPRE5	External routine
	CDCMD	External routine
	CDMQAL	External routine
	CDPBL	External routine
	SQLSCA	External routine
CDCAT	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLSQS	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
	CDARIT	External routine
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
SQLSCC	External routine	
SQLSQS	External routine	
SQLADR	External routine	
SQLAB1	External routine	
SQLEXE	External routine	

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CDCDQ	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
CDCONS	ERRPRO	External routine
	CDPRE5	External routine
	CDCMD	External routine
	CDMQAL	External routine
	CDPBL	External routine
CDCREFO	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	CDGTN	External routine
	OUTFIL	External routine
	RPTERR	External routine
	CDGETOF	Well-defined module
	CDMACR	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CDCRIT	ERRPRO	External routine
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	CDCDQ	External routine
	ERRPRO	External routine
	SQLTFL	External routine
SQLOPN	External routine	
CDDBMSS	CDORCSP	External routine
	CDINGSP	External routine
CDEC	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CDECWS	SQLFCH	External routine
	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
	OUTFIL	External routine
	CDGETOF	Well-defined module
	CDPIC	External routine
	CDCREFO	External routine
CDELIS	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	Well-defined module
	CDPIC	External routine
	CDCREFO	External routine
CDERC	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
ERRPRO	External routine	
SQLSCA	External routine	
	SQLBS1	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLSQS	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
CDGETOF	ERRPRO	External routine
CDP10	ERRPRO	External routine
	CDGTN	External routine
	OUTFIL	External routine
	RPTERR	External routine
	CDGETOF	External routine
	CDMACR	External routine
	CDCREFO	External routine
	CDP10A	Well-defined module
	CDP10B	Well-defined module
	CDP10E	Well-defined module
	CDP10C	Well-defined module
	CDP10F	Well-defined module
	CDP10S	Well-defined module
	CDCONS	External routine
CDP10A	ERRPRO	External routine
	OUTFIL	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CDP10B	CDGETOF	External routine
	CDCREFO	External routine
	CDECWS	External routine
	CDUEMV	Well-defined module
	CDF1RP	External routine
	CDEC	External routine
CDP10C	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	External routine
	CDMACR	External routine
	CDCREFO	External routine
CDP10E	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	External routine
	CDCREFO	External routine
CDP10F	ERRPRO	External routine
	OUTFIL	External routine
	CDGETOF	External routine
	CDPIC	External routine
	CDCREFO	External routine
CDP10S	ERRPRO	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CDP10T	OUTFIL	External routine
	CDGETOF	External routine
	CDMACR	External routine
	CDCREFO	External routine
CDPR7SL	ERRPRO	External routine
	OUTFIL	External routine
	RPTERR	External routine
	CDGETOF	External routine
	CDMACR	External routine
	CDCREFO	External routine
	CDP10C	External routine
	CDP10F	External routine
	APNAME	External routine
	CDPRE8	External routine
CDSDATE	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLSQS	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CDUEMV	ERRPRO OUTFIL CDGETOF CDCREFO	External routine External routine External routine External routine
CDVERLW	ERRPRO CDLKLUW CDINSLW CDDBMSS	External routine External routine External routine External routine
CDZDEL	SQLSCA SQLBS1 SQLSCH SQLSCC SQLTOC SQLOSQ SQLADR SQLAB1 SQLEXE SQLCLS SQLAD1 SQLFCH ERRPRO CDPRE5 CDCMD CDMQAL CDPBL	External routine External routine
COLCHK	SQLSCA SQLBS1	External routine External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
COMPKEY	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
CURLCNT	ERRPRO	External routine
	OUTFIL	External routine
	INPFIL	External routine
	STRNCMP	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
NKOATT	PROCVAR	Well-defined module
	PROEXEC	Well-defined module
	STRNCPY	External routine
	STRCPY	External routine
	SSCANF	External routine
P5INATT	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
	SQLSCA	External routine
SQLBS1	External routine	
SQLSCH	External routine	
SQLSCC	External routine	
SQLOSQ	External routine	
SQLADR	External routine	
SQLAB1	External routine	
SQLEXE	External routine	
SQLAD1	External routine	
SQLFCH	External routine	

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
P5XREF	ERRPRO	External routine
	SQLTFL	External routine
	SQLOPN	External routine
	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLOSQ	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
ERRPRO	External routine	
PROCVAR	ERRPRO	External routine
	OUTFIL	External routine
	RPTERR	External routine
	INPFIL	External routine
	STRNCMP	External routine
	PROEXEC	Well-defined module
	STRNCPY	External routine
	STRCPY	External routine
	SSCANF	External routine
	UNPLINE	External routine
PROEXEC	SPRINTF	External routine
	ERRPRC	External routine

DOCGROUP PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
ROJCHK	OUTFIL	External routine
	INPFIL	External routine
	STRNCMP	External routine
	STRNCPY	External routine
	STRCPY	External routine
ROJFLD	SQLSCA	External routine
	SQLBS1	External routine
	SQLSCH	External routine
	SQLSCC	External routine
	SQLTOC	External routine
	SQLSQS	External routine
	SQLADR	External routine
	SQLAB1	External routine
	SQLEXE	External routine
	SQLCLS	External routine
	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
	SQLSCA	External routine
SQLBS1	External routine	
SQLSCH	External routine	
SQLSCC	External routine	
SQLTOC	External routine	
SQLSQS	External routine	
SQLADR	External routine	
SQLAB1	External routine	
SQLEXE	External routine	
SQLCLS	External routine	

DOCGROU1 PS41258 Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
SQLFILE	SQLAD1	External routine
	SQLFCH	External routine
	ERRPRO	External routine
	RPTERR	External routine
	ERRPRO	External routine
	OUTFIL	External routine
	INPFIL	External routine
	STRNCMP	External routine
	STRNCPY	External routine
	STRCPY	External routine

3.10.4 Module Documentation

The following documentation describes information which is specific to each individual module in the documentation group being documented in this specification. It provides a compact way of getting information that would be otherwise buried within each module's source code.

The specific items in this module documentation have the following meanings:

NAME:	Name of program Module.
PURPOSE:	Purpose of Module as detailed in the source code.
LANGUAGE:	Programming language source code is written in. The choices are: VAX-11 FORTRAN C (I/S-1 Workbench 'C') VAX-11 COBOL
MODULE TYPE:	Whether a Program, Subroutine, or Function.
SOURCE FILE:	Name of Source File from file specification.
SOURCE FILE TYPE:	Source File Extension from file specification.
HOST:	Whether this is a host-dependent routine (VAX or IBM) or blank if host-independent.

SUBSYSTEM: IISS sub-system this file resides in.

SUBDIRECTORY: Sub-directory of that subsystem in which this file resides.

DOCUMENTATION GROUP: Name of documentation group of which this source file is a member.

DESCRIPTION: A description of the module as obtained from the source code.

ARGUMENTS: The arguments with which this routine is called if it is a Subroutine or a Function.

INCLUDE FILES: A list of all the files that are included into this module as well as their purposes.

ROUTINES CALLED: Subroutines or Functions, either documented or external, called by this module, if any.

CALLED DIRECTLY BY: The documented routines which call this module, if any.

USED IN MAIN PROGRAM(S): The documented Main Programs which contain this module in their parts list according to the list in section 3.10.3.

The Module Documentation is arranged alphabetically according to Module Name.

DOCGROUP PS41258 Module Documentation

NAME: CD2NEC
PURPOSE: RETRIEVE IND ENT FOR DEP ENT AND PERFORM TYPE1 REF INTEG TEST
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CD2NEC
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

NEW ROUTINE TO PERFORM SQL SEARCH OF CATEGORY_RELATION TABLE TO FIND INDEPENDENT ENTITY CLASSES. FOR EACH FOUND, CALL CDACAQ TO SET UP TYPE 1 REFERENTIAL INTEGRITY TEST.
PERFORM SQL SEARCH OF CATEGORY_RELATION TABLE FOR ALL INDEPENDENT ENTITIES OF TEMP-EC-NO (1). FOR EACH INDEPENDENT ENTITY FOUND, CALL CDCDQ TO GENERATE A TYPE 1 REFERENTIAL INTEGRITY TEST.

ARGUMENTS:

MODEL-NO DSPLY[S9(4)]
TEMP-XFORM-LIST RECRD
ES-ACTION-LIST RECRD
ES-QUALIFY-LIST RECRD
UV-ABBR-LIST RECRD
CODE-GENERATOR-TABLE RECRD
FCB-1
FCB-2
FCB-3
FCB-4
MY-HOST
TARGET-HOST
SOURCE-LANGUAGE
FCB-E
NDML-COUNTER
CS-ACTION-LIST
CS-QUALIFY-LIST
LUW-NAME
ERROR-STATUS
RFT
JQG-ATTRIBUTE-PAIR-LIST RECRD
BLOCK-STACK
FIRST-INNER-SELECT
FORTRAN-VARIABLE-TABLE
SUB-LANG
EMBEDDED-LANGUAGE
CURSOR-TABLE
WHENEVER-TABLE
RET-STATUS

INCLUDE FILES:

ERRCDM
ERRFS
EOD
TXLIST
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CSAL
CSQUAL
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDCDQ
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CD2SEL

PURPOSE: SETS UP TYPE 2 REFERENTIAL INTEGRITY CHECK FOR
CATEGORY ASSOCIATED L

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CD2SEL

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

FILL IN CS ACTION LIST AND CS-QUALIFY LIST FOR TYPE 2 RI
TEST. USE A CLOSE OF CS-QUALIFY SO AS NOT TO AFFECT USER'S
QUALIFICATIONS. CSQ-VARIABLES WILL DEPEND UPON THE KCMS
SELECTED IN SELECT FOR CASCADE
FOR EACH INDEPENDENT ENTITY OF THE ENTITY TO BE
DELETED, GENERATE A TYPE 2 REFERENTIAL INTEGRITY
TEST BY POPULATING THE CS-ACTION LIST AND ADDING TO
THE CS-QUALIFY AND BOOLEAN LISTS.

ARGUMENTS:

MODEL-NO	DSPLY [S9(4)]
TYPE2-EC	RECRD
CSQ-TAB	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY [S9(9)]
FCB-2	DSPLY [S9(9)]
FCB-3	DSPLY [S9(9)]
FCB-4	DSPLY [S9(9)]
MY-HOST	DSPLY [XXX]
TARGET-HOST	DSPLY [XXX]

SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
CSALX
CSQUALX
TYP2TB
CSQVAR
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CURTAB
WHENTAB
BOOLST
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDPRE5
CDCMD
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDARIT
PURPOSE: SETS UP TYPE 2 REFERENTIAL INTEGRITY CHECK IF
DISCRIMINATOR BEING MO
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDARIT
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

FILL IN CS ACTION LIST AND CS-QUALIFY LIST FOR TYPE 2 RI
TEST. ON EXIT, RESET CSQ-USED TO ITS VALUE ON INPUT.
FOR EACH INDEPENDENT ENTITY OF THE ENTITY TO BE
DELETED, GENERATE A TYPE 2 REFERENTIAL INTEGRITY
TEST BY POPULATING THE CS-ACTION LIST AND ADDING TO
THE CS-QUALIFY AND BOOLEAN LISTS.

ARGUMENTS:

MODEL-NO DSPLY[S9(4)]
IND-EC-NO DSPLY[S9(4)]
IN-RC-NO DSPLY[S9(4)]
ES-ACTION-LIST RECRD
ES-QUALIFY-LIST RECRD
UV-ABBR-LIST RECRD
CODE-GENERATOR-TABLE RECRD
FCB-1 DSPLY[S9(9)]
FCB-2 DSPLY[S9(9)]
FCB-3 DSPLY[S9(9)]
FCB-4 DSPLY[S9(9)]
MY-HOST DSPLY[XXX]
TARGET-HOST DSPLY[XXX]
SOURCE-LANGUAGE DSPLY[X(10)]
FCB-E DSPLY[S9(9)]
NDML-COUNTER DSPLY[9(6)]
CS-ACTION-LIST RECRD
CS-QUALIFY-LIST RECRD
BOOLEAN-LIST RECRD
LUW-NAME DSPLY[X(30)]
ERROR-STATUS DSPLY[9]
RFT RECRD
JQG-ATTRIBUTE-PAIR-LIST RECRD
BLOCK-STACK RECRD
FIRST-INNER-SELECT DSPLY[9]
FORTRAN-VARIABLE-TABLE RECRD
SUB-LANG DSPLY[X(10)]
EMBEDDED-LANGUAGE DSPLY[X(10)]
CURSOR-TABLE RECRD
WHENEVER-TABLE
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CSAL
CSQUAL
BOOLST
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDPRES5
CDCMD
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDASEL
PURPOSE: SETS UP SELECT FOR CASCADE
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDASEL
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

FILL IN CS ACTION LIST FOR SELECT FOR CASCADE
ON EXIT, RESET CSQ-USED TO ITS VALUE ON INPUT.
SELECT KCMS FOR TARGET ENTITY AND BUILD
A CS-ACTION LIST FOR EACH ONE SELECTED.
THE CS-QUALIFY WILL BE THE USER'S QUALIFICATIONS.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
IND-EC-NO	DSPLY[S9(4)]
CSQ-TAB	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
CS-QUALIFY-LIST	RECRD
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
CSALX
CSQVAR
ESAL
ESQUAL
UVABBR

CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CURTAB
WHENTAB
CSQUAL
BOOLST
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDPRE5
CDCMD
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDAUC

PURPOSE: IF TEMP-AUC IS DISCRIMINATOR - DO TYPE 2 TO BE SURE
NO DATA

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDAUC

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

PERFORM SQL SEARCH OF CATEGORY_RELATION ON ALL TEMP-AUCS TO
DETERMINE IF THE TAG IS DISCRIMINATOR. IF SO DO TYPE 2 RI.
PERFORM SINGLE-ROW SELECT OF ALL TEMP TAGS TO
CHECK IF IT IS A DISCRIMINATOR FOR CATEGORY_RELATION.
IF FOUND, GENERATE A TYPE 2 REFERENTIAL INTEGRITY.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
TEMP-XFORM-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
TXLIST
ESAL
ESQUAL
UVABBR
CGTABLE
CSAL
CSQUAL
BOOLST
RFTABLE
APL
BLSTACK
FORVAR
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTFL
SQLOPN
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
CDARIT
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCAT

PURPOSE: VERIFY WHETHER AN ENTITY IS GENERIC ENTITY AND RETURN
CATEGORY TYPE

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDCAT

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

PERFORM SQL SEARCH TO DETERMINE IF AN ENTITY IS GENERIC. IF SO,
RETRIEVE THE WHETHER IT IS A COMPLETE OR INCOMPLETE CATEGORY.
PERFORM SQL SELECT OF THE CATEGORY-TYPE
IF ENTITY IS GENERIC.
RETURN A CATEGORY TYPE OF SPACES IF NOT FOUND.

ARGUMENTS:

EC-NO DSPLY[S9(4)]
TAG-NO DSPLY[S9(4)]
CAT-TYPE DSPLY[X]
REL-TYPE DSPLY[X]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
EOD
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTFL
SQLOPN
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCDQ

PURPOSE: ADD ROW TO CS ACTION LIST AND CS QUALIFY LIST AND
TYPE 1 RIT

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDCDQ

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

FOR THE FIRST TEMP-RC-NO ENTRY WHICH MATCHES THE INPUT ARGUMENT, FILL IN A CS-ACTION ENTRY AND A CS QUALIFY ENTRY AND ADD THE CS QUALIFY ENTRY FOR THE DISCRIMINATOR QUALIFICATION.

FOR EACH ADDITIONAL MATCH, FILL IN A CS QUALIFY ENTRY. ELIMINATE CSQ DUPLICATES AND CALL CDPRE5 TO GENERATE A TYPE 1 REFERENTIAL INTEGRITY TEST.

NEW ROUTINE FOR REL 2.7 TO PROCESS DISCRIMINATOR QUALIFICATIONS POPULATE THE FIRST CS ACTION ROW, AND AS MANY CS QUALIFY ROWS AS THERE ARE TEMP-RC-NO'S MATCHING THE INPUT PARAMETER RC-NO. AFTER ALL ACTION AND QUALIFY TABLE ENTRIES HAVE BEEN POPULATED, MOVE ALL AUC ENTRIES IN THE QUALIFY LIST WHICH AREN'T ALREADY ON THE ACTION LIST TO THE ACTION LIST. ALSO POPULATE THE BOOLEAN LIST. FINALLY, CALL CDPRE5 TO GENERATE THE TYPE 1 REFERENTIAL INTEGRITY TEST.

ARGUMENTS:

TEMP-XFORM-LIST RECRD
IND-EC-NO DSPLY[S9(4)]
RC-NO DSPLY[S9(4)]
DTAG-NO DSPLY[S9(4)]
TEMP-VALUE DSPLY[X(30)]
ES-ACTION-LIST
ES-QUALIFY-LIST
UV-ABBR-LIST
CODE-GENERATOR-TABLE
FCB-1
FCB-2
FCB-3
FCB-4
MY-HOST
TARGET-HOST
SOURCE-LANGUAGE
FCB-E
NDML-COUNTER
CS-ACTION-LIST
CS-QUALIFY-LIST
MODEL-NO
LUW-NAME
ERROR-STATUS
RFT
JQG-ATTRIBUTE-PAIR-LIST
BLOCK-STACK
FIRST-INNER-SELECT
FORTRAN-VARIABLE-TABLE
SUB-LANG
EMBEDDED-LANGUAGE
CURSOR-TABLE
WHENEVER-TABLE
RET-STATUS

INCLUDE FILES:

ERRCDM
ERRFS
BOOLST
TXLIST
ESAL
ESQUAL
UVABBR
CGTABLE
BLSTACK
APL
RFTABLE
FORVAR
CSAL
CSQUAL
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

CDPRE5
CDCMD
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCONS

PURPOSE: NOTE: AS OF 08/01/89 THIS MODULE RE-WRITTEN

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDCONS

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

LANG-NO	RECRD
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
FCB-I	DSPLY[S9(9)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
NEXT-PARAMETER-NO	DSPLY[999]
ES-NDML-NO	DSPLY[999]
FCB-E	DSPLY[S9(9)]
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
SBSTLST
EOD
LANGNO
CSAL
CSQUAL
FORVAR
MACCALL
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
CDGTN
SQLCLS
OUTFIL
RPTERR
CDGETOF
CDMACR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCREFO

PURPOSE: GENERATE NEW FORTRAN VARIABLE NAMES.

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDCREFO

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

- This module receives a FORTRAN or C variable name.
It takes the name and creates a new name for it that looks
like CDMxxx (or cdmxxx), where xxx is a letter of the alphabet.
This routine will thus make all FORTRAN or C variables six
characters. This will make the generated FORTRAN or C code
compatible on the VAX, IBM, and CYBER(if ever needed).
The new name is stored in the FORTRAN-VARIABLE-TABLE, along
with its old variable name. CDPRE2 will initialize
the FORTRAN-VARIABLE-TABLE, including the three POS-PTR's
to one. CDPRE2 will also dump the FORTRAN-VARIABLE-TABLE
in the end of the WORKING-STORAGE parcel when it comes

ARGUMENTS:

OLD-VAR DSPLY[X(30)]
FORTRAN-VARIABLE-TABLE RECRD
LANGUAGE DSPLY[X(10)]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
FORVAR
ERRPRO

ROUTINES CALLED:

ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDCRIT

PURPOSE: PERFORMS SEARCH OF CATEGORY RELATION TO EXTRACT EC_NO
FOR TYPE 1 RI

LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDCRIT
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

PERFORM SQL SEARCH OF CATEGORY_RELATION TABLE TO EXTRACT THE
EC NO WHICH CORRESPONDS TO EACH TEMP-RC-NO. CALL
CDCDQ TO FILL ROWS OF CS-ACTION-LIST AND CS-QUALIFY-LIST
AND GENERATE A TYPE 1 REFERENTIAL INTEGRITY TEST.

NEW ROUTINE FOR REL 2.7
FOR EACH NON-ZERO RELATION CLASS, OBTAIN CATEGORY RELATION
ENTITY CLASS NUMBERS. FOR EACH UNIQUE INDEPENDENT
ENTITY CLASS NUMBER, CALL CDCDQ TO EVENTUALLY
GENERATE A TYPE 1 REFERENTIAL INTEGRITY TEST.

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
TEMP-XFORM-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]

NDML-COUNTER	DSPLY[9(6)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
TXLIST
ESAL
ESQUAL
UVABBR
CGTABLE
APL
RFTABLE
BLSTACK
FORVAR
CSAL
CSQUAL
CURTAB
WHENTAB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTFL
SQLOPN
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
CDCDQ
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDEC

PURPOSE: GENERATE ES/CS TRANSFORM COBOL OR FORTRAN CODE INTO
AP

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDEC

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

- THIS ROUTINE WILL GENERATE WORKING STORAGE

FOR NON-COMPLEX TRANSFORMATIONS, SIMPLE MOVES (COBOL) OR
EQUATES (FORTRAN) FROM EXTERNAL VARIABLES TO CONCEPTUAL
VARIABLES ARE GENERATED.

FOR COMPLEX ES/CS MAPPINGS, THE PARAMETER SETUPS,
CMA CALLS AND OUTPUT PARAMETER MOVES OR EQUATES ARE
GENERATED.

ARGUMENTS:

LANG-NO	RECRD
FCB-I	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
NEXT-PARAMETER-NO	DSPLY[9(3)]
CLIST-INDEX	DSPLY[99]
ELIST-INDEX	DSPLY[99]
ACTION-TYPE	DSPLY[X]
ES-ACTION-TYPE	DSPLY[X]
ES-NDML-NO	DSPLY[999]
CS-NDML-NO	DSPLY[9(6)]
DI-NO	DSPLY[9(6)]
AUC-NO	DSPLY[9(6)]
VAR-OR-FILE-IND	DSPLY[X]
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
DI-TYPE	DSPLY[X]
TAG-TYPE	DSPLY[X]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
LANGNO
FORVAR
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
CDPIC
SQLTFL
SQLOPN
OUTFIL
SQLCLS
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDECWS

PURPOSE: ES/CS DATA DEF FOR RT INSERT/MODIFY/QUAL DATA VALUES

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDECWS

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

EXTERNAL/CONCEPTUAL SCHEMA DATA DEFINITIONS
FOR RUNTIME INSERT, MODIFY AND QUALIFY DATA VALUES

UPDATED 2-6-87 FOR RELEASE 2.3
WILL GENERATE FORTRAN VARIABLES OF NO LARGER THAN
SIX VARIABLES.
UPDATED 2-22-89 TO CREATE CSQ-VARIABLE FOR CASCADE
DELETE (Z) OR CASCADE SELECT (A).
ADDED ADDITIONAL CODE TO BUILD THE KEY VARIABLE
USING THE CS-ACTION (CS-LOCAL-VARIABLE) FOR A
CASCADE SELECT (A).
ADDED FILE STRUCTURE TO HOLD RESULTS COMING
BACK FROM CS/CS FOR CASCADE SELECT.
8/89 - ADDED LOGIC TO GENERATE C AND NEW FORTRAN VARIABLES.
ALSO ADDED LOGIC FOR SQL CURSOR LOGIC.
CODE WILL BE GENERATED INTO THE WORKING STORAGE
SECTION OF THE MODIFIED AP, DEPENDING ON THE
CS-ACTION
THE FOLLOWING CODE WILL BE GENERATED :
01 CS-VAR-NDMLNO-NN PIC TYPE(SIZE)[V9(ND)].
01 CSQ-VAR-NDMLNO-NN PIC TYPE(SIZE)[V9(ND)].
01 ES-VAR-NDMLNO-NN PIC TYPE(SIZE)[V9(ND)].
01 ESQ-VAR-NDMLNO-NN PIC TYPE(SIZE)[V9(ND)].
WHERE NN IS EITHER THE CS-ES-PTR OR CSQ-ES-PTR
OR CS-INDEX OR CSQ-INDEX.

ARGUMENTS:

LANG-NO	RECRD
FCB	DSPLY[S9(9)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
FORTRAN-VARIABLE-TABLE	RECRD
CASCADE-DELETE-FLAG	DSPLY[9]
INS-MOD-SWITCH-FLAG	DSPLY[X]
CURSOR-TABLE	RECRD
EMBEDDED-LANGUAGE	DSPLY[X(10)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
ESREC
LANGNO
CSAL
CSQUAL
CURTAB
ESAL
ESQUAL
FORVAR
ERRPRO

ROUTINES CALLED:

CDPIC
OUTFIL
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDELIS

PURPOSE: RETRIEVE ALL RCNOS FOR ENTITY, GET MEMBERS ADD TO LIST

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDELIS

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

- THIS ROUTINE WILL RETRIEVE ALL RCNOS FOR AN ENTITY, DETERMINE IF IT A LINK RELATION OR CATEGORY RELATION. IF IT IS CATEGORY, MEMBERS WILL BE RETRIEVED AND ADDED TO EXISTING LIST. PROCESSING WILL BE DOWN THE LIST UNTIL ALL ENTITIES HAVE BEEN RETRIEVED AND RCNOS CHECKED. IF IT IS A LINK RELATION, IT WILL BE ADDED TO A TABLE BUILT FOR TYPE2 PROCESSING. TYPE 2'S WILL NOT BE CHECKED FOR CATEGORIES UNDER THEM.

- SELECT THE RC-NO USING THE EC-TABLE AND BUILD TYPE 2 TABLE OR ADD TO EC-TABLE DEPENDING ON LINK TYPE

ARGUMENTS:

EC-TABLE RECRD
TYPE2-EC RECRD
ERROR-STATUS DSPLY[9]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
DELCAT
TYP2TB
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLSQS
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
SQLCLS
ERRPRO

DDCGROUP PS41258 Module Documentation

NAME: CDERC

PURPOSE: DETERMINE IF ENTITY IS GENERIC IN CATEGORY

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDERC

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

- "THIS ROUTINE WILL DETERMINE IF AN ENTITY IS
GENERIC AND IF SO - WILL BUILD A TABLE OF
ECNOS FOR FURTHER PROCESSING.

-
SELECT THE CATEGORY RC-NOS GIVEN THE TARGET ENTITY NUMBER AND
BUILD A
LIST OF CATEGORY MEMBERS FOR FURTHER PROCESSING.

ARGUMENTS:

IND-EC-NO DSPLY[S9(4)]
EC-TABLE RECRD
ERROR-STATUS DSPLY[9]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
DELCAT
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDGETOF

PURPOSE: GET GENERATED FORTRAN VARIABLE NAME.

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDGETOF

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

- This program scans the FORTRAN-VARIABLE-TABLE searching for an old FORTRAN variable name. When it is found, it returns its corresponding generated six-character FORTRAN name.

ARGUMENTS:

OLD-VAR DSPLY[X(30)]
NEW-VAR DSPLY[X(6)]
FORTRAN-VARIABLE-TABLE RECRD
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
FORVAR
ERRPRO

ROUTINES CALLED:

ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10

PURPOSE: BUILD CALLS AND MESSAGES INTO THE USERS APPLICATION
PROCESS

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDP10

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

GENERATES CODE INTO THE USERS APPLICATION PROGRAM REQUIRED
TO PROCESS THE NDML REQUEST AT RUNTIME. THIS INCLUDES CODE
TO ASSEMBLE TABLES AND PARAMETERS NEEDED BY THE DISTRIBUTED
REQUEST SUPERVISOR TO SATISFY AN NDML REQUEST AND CODE TO
RECEIVE THE RESULTS FROM THE REQUEST.

UPDATED 2/6/87 FOR RELEASE 2.3

IN FORTRAN GENERATION, WILL GENERATE ONLY SIX
CHARACTER VARIABLES.

UPDATE 10/13/88 FOR RELEASE 2.5

IN FORTRAN GENERATION, WILL NOW WRITE TO ALL FOUR PARCELS
AND EXPECT FORTRAN C/E.

UPDATE 12/19/88

BUG FIX IN SELECT-INNER-SELECT SHOULD BE 8 NOT 12.

DELETED IOS-SECITON PARAMETER - 2 MAY 1989

UPDATE 9/89

CHANGES TO ALLOW C CODE GENERATION.

CHANGES TO ALLOW FOR EMBEDDED SQL.

ARGUMENTS:

ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
IS-ACTION-LIST	RECRD
IS-QUALIFY-LIST	RECRD
JQG	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
RFT	RECRD
SUBTRANS-PROCESS-ID-TABLE	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-I	DSPLY[S9(9)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
FCB-E	DSPLY[S9(9)]
CS-ES-MOD-NAME	DSPLY[X(10)]
CS-CS-MOD-NAME	DSPLY[X(10)]
SOURCE-LANGUAGE	DSPLY[X(10)]
UV-ABBR-LIST	RECRD
BLOCK-STACK	RECRD
LUW	DSPLY[X(30)]
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RETURN-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
CHKCDM
SBSTLST
LANGNO
ESAL
ESQUAL
CSAL
CSQUAL
ISAL
ISQUAL
JQGTBL
APL
RFTABLE
SUBPROC
CGTABLE
UVABBR
BLSTACK
FORVAR
CURTAB
WHENTAB
MACCALL
ERRPRO

ROUTINES CALLED:

RPTERR
CDP10A
CDP10B
CDP10E
CDP10C
CDP10F
CDP10S
CDCONS
CDGTN
OUTFIL
CDCREFO
CDGETOF
CDMACR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10A

PURPOSE: GENERATE THE TRANSFORMATION OF ES VALUES AND
VARIABLES

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDP10A

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

MOD FOR 2.2.5-

INCLUDE THE REMOTE/LOCAL ON THE INTERFACE TO THE DRS
PASS ALONG THE RP-SUB NAME, RATHER THAT IT'S CASE NUMBER

MOD FOR 2.3 - 2/9/87

WHEN FORTRAN, GENERATE VARIABLES THAT ARE ONLY
SIX CHARACTERS LONG.

MOD FOR 2.5 - 10/13/88

WHEN FORTRAN, WILL WRITE TO ALL FOUR PARCELS AND
EXPECT FORTRAN CTOE.

MOD FOR 2.6 - 12/6/88

INCLUDE A RP-LANG CHARACTER ON THE INTERFACE TO THE DRS

MOD FOR 2.7 - 08/28/89

INCLUDE GENERATION OF C

ARGUMENTS:

LANG-NO
FCB-I
FCB-F

RECRD
DSPLY[S9(9)]
DSPLY[S9(9)]

FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
IS-ACTION-LIST	RECRD
IS-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
SUBTRANS-PROCESS-ID-TABLE	RECRD
NEXT-PARAMETER-NO	DSPLY[999]
FCB-E	DSPLY[S9(9)]
LUW	DSPLY[X(30)]
FORTTRAN-VARIABLE-TABLE	RECRD
CURSOR-TABLE	RECRD
EMBEDDED-LANGUAGE	DSPLY[X(10)]
TARGET-HOST	DSPLY[XXX]
CASCADE-DELETE-FLAG	DSPLY[9]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
SBSTLST
LANGNO
ESAL
ESQUAL
ISAL
ISQUAL
CSAL
CSQUAL
CGTABLE
SUBPROC
UVABBR
FORVAR
CURTAB
ERRPRO

ROUTINES CALLED:

CDECWS
CDUEMV
CDF1RP
CDEC
OUTFIL
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10B

PURPOSE: GENERATED THE PRECOMPILE TABLES INTO THE USERS AP

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDP10B

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

- GENERATE THE TRANSFER OF PRECOMPILE
TABLES INTO THE USERS AP. THESE TABLES INCLUDE:

JQG - JOIN QUERY GRAPH

APL - ATTRIBUTE PAIR LIST

RFT - RESULT FIELD TABLE

CSAL - CONCEPTUAL SCHEMA ACTION LIST

MOD REL 2.5 - 10/13/88

IN FORTRAN, WILL WRITE TO ALL FOUR PARCELS AND EXPECT
FORTRAN CTOE.

MOD REL 2.7(?) - 8-8-89

CHANGES TO ALLOW GENERATION OF C CODE

- GENERATE WORKING STORAGE VARIABLES TO HOLD THE
PRECOMPILE TABLES REQUIRED FOR THE NDML REQUEST. THEN
POPULATE THESE VARIABLES WITH PRECOMPILED RESULTS
REQUIRED FOR THE NDML REQUEST.

ARGUMENTS:

LANG-NO	RECRD
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
ES-NDML-NO	DSPLY[999]
JQG	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
RFT	RECRD
CS-ACTION-LIST	RECRD
IS-ACTION-LIST	RECRD
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
RETURN-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
CHKCDM
SBSTLST
LANGNO
JQGTBL
APL
RFTABLE
CSAL
ISAL
FORVAR
MACCALL
ERRPRO

ROUTINES CALLED:

CDMACR
OUTFIL
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10C

PURPOSE: GENERATE ES RESULTS INTO USER VARIABLES OR STRUCTURE

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDP10C

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

ARGUMENTS:

LANG-NO RECRD
FCB-P DSPLY[S9(9)]
ES-ACTION-LIST RECRD
CS-NDML-NO DSPLY[9(6)]
FORTRAN-VARIABLE-TABLE RECRD
EMBEDDED-LANGUAGE DSPLY[X(10)]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
LANGNO
ESAL
FORVAR
ERRPRO

ROUTINES CALLED:

OUTFIL
ERRPRO
CDCREFO
CDGETOF

DOCGROUP PS41258 Module Documentation

NAME: CDP10E

PURPOSE: GENERATE ES/CS DATA DEFINITIONS FOR INSERT VALUES

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDP10E

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

LANG-NO RECRD
FCB-I DSPLY[S9(9)]
FCB-F DSPLY[S9(9)]
FCB-W DSPLY[S9(9)]
FCB-P DSPLY[S9(9)]
ES-ACTION-LIST RECRD
ES-VALUE-USED DSPLY[99]
FORTRAN-VARIABLE-TABLE RECRD
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
LANGNO
ESAL
FORVAR
ERRPRO

ROUTINES CALLED:

CDPIC
OUTFIL
ERRPRO
CDCREFO
CDGETOF

DOCGROUP PS41258 Module Documentation

NAME: CDP10F

PURPOSE: GENERATE WORKING STORAGE VARIABLES TO HOLD ES RESULTS

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDP10F

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

LANG-NO RECRD
CS-ACTION-LIST RECRD
ES-ACTION-LIST RECRD
FCB-F DSPLY[S9(9)]
FCB-W DSPLY[S9(9)]
FORTRAN-VARIABLE-TABLE RECRD
CURSOR-TABLE RECRD
EMBEDDED-LANGUAGE DSPLY[X(10)]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
LANGNO
CSAL
ESAL
FORVAR
CURTAB
ERRPRO

ROUTINES CALLED:

CDPIC
OUTFIL
ERRPRO
CDCREFO
CDGETOF

DOCGROUP PS41258 Module Documentation

NAME: CDP10S
PURPOSE: PERFORM QUERY COMBINATION
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDP10S
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- THIS FUNCTION WILL:

- 1) GENERATE CODE INTO THE PROCEDURE PARCEL OF THE APPLICATION PROGRAM THAT IS USED TO ASSEMBLE THE INPUT PARAMETERS REQUIRED FOR THE APPROPRIATE AGGREGATOR TO SATISFY AN NDML QUERY COMBINATION COMMAND.
 - 2) GENERATE CODE INTO THE WORKING STORAGE PARCEL OF THE APPLICATION PROGRAM TO BE USED AS INPUT PARAMETERS FOR THE AGGREGATOR CALLS.
 - 3) GENERATE CODE INTO THE PROCEDURE PARCEL OF THE APPLICATION PROGRAM TO CALL THE APPROPRIATE AGGREGATOR MODULE TO
- UPDATED 2/5/87
TO GENERATE ONLY SIX CHARACTER FORTRAN VARIABLES.
UPDATED 10/13/88 (REL 2.5)
FORTRAN TO WRITE TO ALL FOUR PARCELS AND
EXPECT FORTRAN CTOE.
UPDATED 9/1/89 (REL 2.7)
GENERATE C CODE

ARGUMENTS:

QUERY-TYPE	DSPLY[X]
ES-NDML-ID1	DSPLY[X(4)]
CS-NDML-ID1	DSPLY[X(6)]
ES-NDML-ID2	DSPLY[X(4)]
CS-NDML-ID2	DSPLY[X(6)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
LANG-NAME	DSPLY[X(10)]
NEXT-QRY-ID	DSPLY[X(4)]
NEXT-CS-QRY-ID	DSPLY[X(6)]
CS-ACTION-LIST	RECRD
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
FORTRAN-VARIABLE-TABLE	RECRD
TARGET-HOST	DSPLY[XXX]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
ERRFS
SBSTLST
CSAL
APL
RFTABLE
FORVAR
ERRPRO
MACCALL

ROUTINES CALLED:

CDMACR
OUTFIL
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDP10T

PURPOSE: GENERATE CODE TO PERFORM FINAL MAPPING OF RESULTS

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDP10T

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

- THIS FUNCTION WILL:

1. GENERATE CODE INTO THE WORKING STORAGE PARCEL OF THE APPLICATION PROGRAM TO BE USED FOR THE FINAL MAPPING OF RESULTS FROM A QUERY COMBINATION COMMAND.

2. GENERATE CODE INTO THE PROCEDURE PARCEL OF THE APPLICATION PROGRAM TO CALL THE C/E TRANSFROM PROGRAM AND MAP THE RESULTS INTO USER SPECIFIED VARIABLES, STRUCTURE OR FILE.

UPDATED 2/6/87 FOR RELEASE 2.3

WILL GENERATE FORTRAN VARIABLES THAT ARE ONLY SIX CHARACTERS LONG.

DELETE IOS-SECTION PARAMETER -- 2 MAY 1989

UPDATED 9/5/89 FOR RELEASE 2.7
FOR GENERATION OF C CODE

ARGUMENTS:

ES-ACTION-LIST	RECRD
ES-ACTION-INNER	RECRD
CS-ACTION-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-I	DSPLY[S9(9)]
FCB-F	DSPLY[S9(9)]
FCB-W	DSPLY[S9(9)]
FCB-P	DSPLY[S9(9)]
FCB-E	DSPLY[S9(9)]
SOURCE-LANGUAGE	DSPLY[X(10)]
TARGET-HOST	DSPLY[X(3)]
CURRENT-HOST	DSPLY[X(3)]
BLOCK-STACK	RECRD
NEXT-CS-QRY-ID	DSPLY[X(6)]
ACTION-SYMBOL	DSPLY[X]
FORTRAN-VARIABLE-TABLE	RECRD
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
ERRFS
SBSTLST
BLSTACK
ESAL
CSAL
CGTABLE
FORVAR
CURTAB
MACCALL
ERRPRO

ROUTINES CALLED:

APNAME
RPTERR
CDPRE8
CDP10F
CDP10C
OUTFIL
CDMACR
CDCREFO
CDGETOF
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDPR7SL
PURPOSE: CONSTRUCTS A TABLE OF DATAFIELDS FOR A RECORD TYPE
LANGUAGE: VAX-11 COBOL
SOURCEFILE: CDPR7SL
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

SELECTS ALL THE DATA FIELDS FOR A GIVEN RTID,
CREATED APRIL 1989 TO ELIMINATE ORACLE-SPECIFIC TREE QUERY
FROM CDPR7KY MODULE.

A structured tree query is executed as an iterative implementation of recursion. Each entry is brought into a table, from where it will be later used as a component of the next higher level data field structure. After the entire set of entries has been brought into the table, they are sorted by rec-seq-no to replicate the original ORACLE-specific recursive select.

ARGUMENTS:

IN-RTID DSPLY[X(30)]
IN-DBID DSPLY[S9(9)]
TRECTBL RECRD
FCB-E DSPLY[S9(9)]
RET-STATUS DSPLY[X(5)]
QCS-CDMP-CHECK-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRRFS
EOD
CHKCDM
ERRPRO

ROUTINES CALLED:

**SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLABI1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
RPTERR
ERRPRO**

DOCGROUP PS41258 Module Documentation

NAME: CDSDATE
PURPOSE: ACQUIRE CURRENT DATE FROM THE SYSTEM
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDSDATE
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: SHARE

DESCRIPTION:

THIS ROUTINE ACCEPTS THE CURRENT DATE FROM THE SYSTEM,
FORMATS IT AND RETURNS IT AS OUTPUT.

ARGUMENTS:

FORMATTED-DATE REC'D

DOCGROUP PS41258 Module Documentation

NAME: CDUEMV
PURPOSE: GENERATE EXTERNAL/CONCEPTUAL SCHEMA MOVE STATEMENTS
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDUEMV
SOURCE FILE TYPE: COB
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

ARGUMENTS:

LANG-NO	RECRD
FCB-P	DSPLY[S9(9)]
CS-ACTION-LIST	RECRD
CS-QUALIFY-LIST	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
FORTRAN-VARIABLE-TABLE	RECRD
CASCADE-DELETE-FLAG	DSPLY[9]
RET-STATUS ;	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
LANGNO
CSAL
CSQUAL
ESAL
ESQUAL
FORVAR
ERRPRO

ROUTINES CALLED:

OUTFIL
ERRPRO
CDCREFO
CDGETOF

DOCGROUP PS41258 Module Documentation

NAME: CDVERLW

PURPOSE: VERIFY AND LOCK A USER ENTERED LOGICAL UNIT OF WORK

LANGUAGE: VAX-11 COBOL

SOURCE FILE: CDVERLW

SOURCE FILE TYPE: COB

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

VVERIFY THE PRESENCE OF THE USER ENTERED LOGICAL UNIT OF WORK. CALL CDLKLW WHICH WILL SEARCH FOR IT AND IF FOUND

LOCK THE ROW. IF THE ROW IS NOT FOUND, CDINSLW WILL BE CALLED TO INSERT A NEW LOGICAL UNIT OF WORK OCCURRENCE. THE CHANGE WILL BE COMMITTED TO BE MADE PERMANENT AND CDLKLW WILL BE REPEATED TO FIND AND LOCK THE ROW JUST INSERTED.

ARGUMENTS:

LUW-NAME DSPLY[X(30)]
LAST-CASE-NO DSPLY[9(6)]
LUW-LOCK-STATUS DSPLY[9]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
ERRPRO

ROUTINES CALLED:

CDLKLW
CDINSLW
CDDBMSS
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDZDEL
PURPOSE: SETS CASCADE DELETE USING TABLE OF ENTITIES
LANGUAGE: VAX-11 COBOL
SOURCE FILE: CDZDEL
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

FILL IN CS ACTION LIST AND CS-QUALIFY LIST FOR CASCADE DELETE
USES A CLONE OF CS QUALIFY AND CS ACTION SO AS NOT TO AFFECT
USER QUALIFICATIONS AND ORIGINAL CSAL
WHICH CASCADE DELETE DOES NOT USE

ARGUMENTS:

MODEL-NO	DSPLY[S9(4)]
EC-TABLE	RECRD
CSQ-TAB	RECRD
ES-ACTION-LIST	RECRD
ES-QUALIFY-LIST	RECRD
UV-ABBR-LIST	RECRD
CODE-GENERATOR-TABLE	RECRD
FCB-1	DSPLY[S9(9)]
FCB-2	DSPLY[S9(9)]
FCB-3	DSPLY[S9(9)]
FCB-4	DSPLY[S9(9)]
MY-HOST	DSPLY[XXX]
TARGET-HOST	DSPLY[XXX]
SOURCE-LANGUAGE	DSPLY[X(10)]
FCB-E	DSPLY[S9(9)]
NDML-COUNTER	DSPLY[9(6)]
BOOLEAN-LIST	RECRD
LUW-NAME	DSPLY[X(30)]
ERROR-STATUS	DSPLY[9]
RFT	RECRD
JQG-ATTRIBUTE-PAIR-LIST	RECRD
BLOCK-STACK	RECRD
FIRST-INNER-SELECT	DSPLY[9]
FORTRAN-VARIABLE-TABLE	RECRD
SUB-LANG	DSPLY[X(10)]
EMBEDDED-LANGUAGE	DSPLY[X(10)]
CURSOR-TABLE	RECRD
WHENEVER-TABLE	
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM	
ERRFS	
EOD	
CSQUALX	
CSAL	
DELCAT	
CSQVAR	
ESAL	
ESQUAL	
UVABBR	
CGTABLE	
APL	
RFTABLE	
BLSTACK	
FORVAR	
CURTAB	
WHENTAB	
BOOLST	
ERRPRO	

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
CDCMD
CDPRE5
CDMQAL
CDPBL
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: COLCHK

PURPOSE: FIND TABLE NAME THAT A GIVEN COLUMN NAME BELONGS TO.

LANGUAGE: VAX-11 COBOL

SOURCE FILE: COLCHK

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

GIVEN A SPECIFIED COLUMN NAME, THIS ROUTINE TRIES TO FIND THE TABLE NAME IT IS ASSOCIATED WITH. IF A TABLE CANNOT BE FOUND OR MULTIPLE TABLES ARE FOUND, THIS IS AN ERROR. THE TABLE NAME IS THEN

CHECKED AGAINST THE UV-ABBR-LIST TO SEE IF THE TABLE NAME WAS SPECIFIED IN THE 'FROM' CLAUSE. THIS ROUTINE IS CALLED BY CDPRE2A.

PERFORM SQL SELECT FOR THE NAME OF THE TABLE ASSOCIATED WITH COLUMN-NAME. RETURN TABLE-NAME IF FOUND.

ARGUMENTS:

COLUMN-NAME DSPLY[X(30)]
TABLE-NAME DSPLY[X(30)]
UV-ABBR-LIST RECRD
FCB-E DSPLY[S9(9)]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
EOD
UVABBR
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
RPTERR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: COMPKEY

PURPOSE: COMPKEY returns the complete key for an entity

LANGUAGE: VAX-11 COBOL

SOURCE FILE: COMPKEY

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

COMPLETE-KEY-LIST RECRD
FCB-E DSPLY[S9(9)]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
P5COMKY
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
SQLCLS
RPTERR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: NKOATT

PURPOSE: NKOATT returns a table containing all the non-key
 attributes,

LANGUAGE: VAX-11 COBOL

SOURCE FILE: NKOATT

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

-

ARGUMENTS:

NONKEY-OWNATT-TABLE RECRD
FCB-E DSPLY[S9(9)]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
P5NKATT
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
SQLCLS
RPTERR
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: P5INATT

PURPOSE: This routine returns whether or not this tag

LANGUAGE: VAX-11 COBOL

SOURCE FILE: P5INATT

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

-
Uses the tag-no to access INHERITED_ATT_USE and AUC

ARGUMENTS:

TAG-NO DSPLY[9(6)]
EC-NO DSPLY[9(6)]
FOUND-FLAG DSPLY[9]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
EOD
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH

SQLSCC
SQLTFL
SQLOPN
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: P5XREF
PURPOSE: P5XREF RETRIEVES ALL THE DATA FIELDS FOR
LANGUAGE: VAX-11 COBOL
SOURCE FILE: P5XREF
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

ARGUMENTS:

DBID	DSPLY[9(6)]
DF-TABLE-LIST	RECRD
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
EOD
P5DFS
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLCLS
SQLAD1
SQLFCH
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: ROJCHK

PURPOSE: DETERMINE RECORD OUTER JOIN RULES AND CARDINALITY

LANGUAGE: VAX-11 COBOL

SOURCE FILE: ROJCHK

SOURCE FILE TYPE: PCO

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

DESCRIPTION:

- QUERY LINKREL, ECRTJOIN, CATMEM, CATREL

ARGUMENTS:

EC-NO	DSPLY[9(6)]
EC-INFO-TBL	RECRD
ROJ-INFO-TABLE	RECRD
FCB-E	DSPLY[S9(9)]
RET-STATUS	DSPLY[X(5)]

INCLUDE FILES:

ERRCDM
ERRFS
EOD
P5ECINF
P5ROJ
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
SQLAD1
SQLFCH
RPTERR
SQLCLS
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: ROJFLD
PURPOSE: DETERMINE RECORD OUTER JOIN PARTICIPATION OF A
LANGUAGE: VAX-11 COBOL
SOURCE FILE: ROJFLD
SOURCE FILE TYPE: PCO
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

- - Query project_data_field to find the entity
the given field is mapped to.
-

ARGUMENTS:

DBID DSPLY[S9(6)]
DFID DSPLY[X(30)]
RTNO DSPLY[9(6)]
ROJ-INFO-TABLE RECRD
MAPPING-STATUS DSPLY[X]
FCB-E DSPLY[S9(9)]
RET-STATUS DSPLY[X(5)]

INCLUDE FILES:

CHKCDM
ERRCDM
ERRFS
EOD
P5ROJ
ERRPRO

ROUTINES CALLED:

SQLSCA
SQLBS1
SQLSCH
SQLSCC
SQLTOC
SQLOSQ
SQLADR
SQLAB1
SQLEXE
RPTERR
SQLAD1
SQLFCH
SQLCLS
ERRPRO

DOCGROUP PS41258 Module Documentation

NAME: CDDBMSS
PURPOSE: CALL DBMS SPECIFIC ROUTINE
LANGUAGE: C
SOURCE FILE: CDDBMSS
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

DESCRIPTION:

CALLED BY:
CDPRE.PCO, CDP14.PCO, CDVERLW.PCO, CDVERSM.PCO

INPUT:

CHAR *COMMAND_TYPE

OUTPUT:

INT *STATUS

DESCRIPTION:

THIS ROUTINE IS USED MERELY TO CALL EITHER AN ORACLE OR
AN INGRES SPECIFIC EMBEDDED SQL C PROGRAM. THE OBSOLETE
CALL IS 'IFDEF'ED OUT.
NOTE: THIS ROUTINE MUST BE COMPILED WITH EITHER 'ORC' OR 'ING'
DEFINED IN THE COMPILE COMMAND.

ARGUMENTS:

COMMAND_TYPE CHAR *
STATUS INT *

ROUTINES CALLED:

CDORCSP
CDINGSP

DOCGROUP PS41258 Module Documentation

NAME: CURLCNT

PURPOSE:

LANGUAGE: C

SOURCE FILE: CURLCNT

SOURCE FILE TYPE: C

HOST:

SUBSYSTEM: CDM

SUBDIRECTORY: NDML

ARGUMENTS:

FCB_IN	INT *
FCB_OUT1	INT *
FCB_OUT2	INT *
BUF_LEN	LONG *
REC_LEN	LONG *
BUFFER	CHAR []
CURLEY	INT *
C_MOD_NAME	CHAR []
VAR_ARRAY	VAR_STRUCT *
LANGUAGE	CHAR []
EMB_LANG	CHAR []
CURL_FLAG	INT *
RET_STATUS	CHAR []

INCLUDE FILES:

ERRCDM
TOKstrt
PCOMM

ROUTINES CALLED:

INPFIL
STRNCMP
PROCVAR
PROEXEC
STRNCPY
STRCPY
ERRPRO
OUTFIL
SSCANF

DOCGROUP PS41258 Module Documentation

NAME: PROCVAR
PURPOSE:
LANGUAGE: C
SOURCE FILE: PROCVAR
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

ARGUMENTS:

FCB_IN	INT *
FCB_OUT1	INT *
FCB_OUT2	INT *
BUF_LEN	LONG
REC_LEN	LONG
BUFFER	CHAR []
VAR_ARRAY	VAR_STRUCT *
LANGUAGE	CHAR *
RET_STATUS	CHAR []

INCLUDE FILES:

ERRCDM
PCOMM
TOKSTRT

ROUTINES CALLED:

STRNCMP
UNPLINE
STRCPY
STRNCPY
PROEXEC
SSCANF
SPRINTF
ERRPRO
RPTERR
INPFIL
OUTFIL

DOCGROUP PS41258 Module Documentation

NAME: PROEXEC
PURPOSE:
LANGUAGE: C
SOURCE FILE: PROEXEC
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

ARGUMENTS:

FCB_IN INT *
FCB_OUT1 INT *
FCB_OUT2 INT *
BUF_LEN LONG
REC_LEN LONG
BUFFER CHAR []
LANGUAGE CHAR []
RET_STATUS CHAR []

INCLUDE FILES:

ERRCDM

ROUTINES CALLED:

STRNCMP
STRCPY
ERRPRO
INPFIL
STRNCPY
OUTFIL

DOCGROUP PS41258 Module Documentation

NAME: SQLFILE
PURPOSE:
LANGUAGE: C
SOURCE FILE: SQLFILE
SOURCE FILE TYPE: C
HOST:
SUBSYSTEM: CDM
SUBDIRECTORY: NDML

ARGUMENTS:

FCB_IN INT *
BUF_LEN LONG
REC_LEN LONG
FCB_NEW_IN INT *
LANGUAGE CHAR []
EMB_LANG CHAR []
RET_STATUS CHAR []

INCLUDE FILES:

ERRCDM

ROUTINES CALLED:

STRNCMP
STRCPY
ERRPRO
STRNCPY
OUTFIL
INPFIL

3.10.5 Include File Descriptions

The following list contains a purpose and description of each include file in the documentation group as specified in the source code. The language it is written in is also given.

DOCGROUP PS41258 Include File Description

FILE NAME: APL
PURPOSE: JOIN QUERY ATTRIBUTE PAIR LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS INFORMATION ABOUT THE JOIN
ATTRIBUTES FOR NDML SUBTRANSACTIONS

DOCGROUP PS41258 Include File Description

FILE NAME: BLSTACK
PURPOSE: FORTRAN VARIABLE TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS TABLE HOLDS THE ORIGINAL FORTRAN VARIABLE
AND ITS GENERATED SIX-CHARACTER COUNTERPART.

DOCGROUP PS41258 Include File Description

FILE NAME: BOOLST
PURPOSE: BOOLEAN LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE BOOLEAN OPERATORS, PARENTHESES, AND
POINTERS TO THE TYPE 2 CONDITIONS FOR AN NDML
TRANSACTION

DOCGROUP PS41258 Include File Description

FILE NAME: CGTABLE
PURPOSE: CODE GENERATING TABLE- TRACKS ALL GENERATED SOFTWARE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: CHKCDM
PURPOSE: IISS CDMP CHECK STATUS CODES
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: CSAL
PURPOSE: CONCEPTUAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

TABLE TO HOLD CONCEPTUAL DATA ABOUT THE REQUEST

NOTE!!!!!! This table is cloned in both cdpre5 and cdpre4 so any changes made to this structure needs to be made in these cloned versions. Clone version is CSALX for CDPRE4.

NOTE AGAIN Any changes to the CS-ACTION-ENTRY must be reflected in CDP10B in the C code generation section. The length of CS-STRING2 has been hard coded in the generated C code in paragraph 210-GEN-MOVE-OF-TABLES.

***** THE CONCEPTUAL SCHEMA ACTION LIST

DOCGROUP PS41258 Include File Description

FILE NAME: CSALX
PURPOSE: DUMMY CONCEPTUAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

TABLE TO HOLD CONCEPTUAL DATA FOR CASCADE SELECT

***** THE CONCEPTUAL SCHEMA ACTION LIST

DOCGROUP PS41258 Include File Description

FILE NAME: CSQUAL
PURPOSE: CONCEPTUAL SCHEMA QUALIFY LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS CONCEPTUAL SCHEMA INFORMATION FOR
THE REQUEST'S QUALIFICATION

NOTE!!!!!
This table is cloned as CSQUALX in CDPRE4. If it is changed, CSQUALX must be changed also.

THE CONCEPTUAL SCHEMA QUALIFY LIST

DOCGROUP PS41258 Include File Description

FILE NAME: CSQUALX
PURPOSE: CONCEPTUAL SCHEMA QUALIFY LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS CONCEPTUAL SCHEMA INFORMATION FOR
THE REQUEST'S QUALIFICATION
THIS IS A CLONE USED FOR DELETE CATEGORY SO
AS NOT TO DESTROY THE USER'S QUALIFICATIONS

THE CONCEPTUAL SCHEMA QUALIFY LIST

DOCGROUP PS41258 Include File Description

FILE NAME: CSQVAR
PURPOSE: EXTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: CURTAB
PURPOSE: BOOLEAN LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE BOOLEAN OPERATORS, PARENTHESES, AND
POINTERS TO THE TYPE 2 CONDITIONS FOR AN NDML
TRANSACTION

DOCGROUP PS41258 Include File Description

FILE NAME: DELCAT
PURPOSE: EXTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE EXTERNAL SCHEMA INFORMATION FOR AN
NDML REQUEST
THE EXTERNAL SCHEMA ACTION LIST

DOCGROUP PS41258 Include File Description

FILE NAME: EOD
PURPOSE: SQL END OF DATA DEFINITION
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: ERRCDM
PURPOSE: IISS ERROR STATUS CODES FOR CDMP MODULES
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS ALL ERROR CODES USED BY CDMP *
MODULES FOR ERROR HANDLING *

DOCGROUP PS41258 Include File Description

FILE NAME: ERRFS
PURPOSE: ERRFS.INC - FILE I/O PRIMITIVES (FILE SERVICES)
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

IISS ERROR CODES

THIS FILE DEFINES THE FS STATUS
CODES IN COBOL FORMAT

DOCGROUP PS41258 Include File Description

FILE NAME: ERPRO
PURPOSE: PROCESS ERROR INCLUDE FILE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: ESAL
PURPOSE: EXTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE EXTERNAL SCHEMA INFORMATION FOR AN
NDML REQUEST

DOCGROUP PS41258 Include File Description

FILE NAME: ESQUAL
PURPOSE: EXTERNAL SCHEMA QUALIFY LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS EXTERNAL SCHEMA INFORMATION FOR THE NDML

DOCGROUP PS41258 Include File Description

FILE NAME: ESREC
PURPOSE: WS DEFINITION FOR COBOL SOURCE LINE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS DEFINITION IS USED WHEN GENERATING COBOL
SOURCE CODE

CHANGED FOR AAAP PROJECT TO REFLECT FORTRAN AND
C SOURCE CODE FORMATS. JULY 22, 1988

DOCGROUP PS41258 Include File Description

FILE NAME: FORVAR
PURPOSE: FORTRAN VARIABLE TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS TABLE HOLDS THE ORIGINAL FORTRAN VARIABLE
AND ITS GENERATED SIX-CHARACTER COUNTERPART.

DOCGROUP PS41258 Include File Description

FILE NAME: ISAL
PURPOSE: INTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS INTERNAL SCHEMA INFORMATION ABOUT AN
NDML REQUEST

DOCGROUP PS41258 Include File Description

FILE NAME: ISQUAL
PURPOSE: INTERNAL SCHEMA QUALIFY LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS INTERNAL SCHEMA INFORMATION FOR AN
NDML QUALIFICATION

THE INTERNAL SCHEMA QUALIFY LIST

DOCGROUP PS41258 Include File Description

FILE NAME: JQGTBL
PURPOSE: JOIN QUERY GRAPH TELLS HOW TO CONNECT
SUBTRANSACTIONS
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: LANGNO
PURPOSE: SOURCE LANGUAGE VARIABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE VALUES FOR THE SOURCE LANGUAGE
OF THE APPLICATION

DOCGROUP PS41258 Include File Description

FILE NAME: MACCALL
PURPOSE: CALL THE MACRO COPY UTILITY
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

PARAGRAPHS TO SUBSTITUTE PARAMETERS FOR MACRO CALLS
AND TO CALL "CDMACR" ROUTINE

DOCGROUP PS41258 Include File Description

FILE NAME: P5COMKY
PURPOSE: this table contains information about the tags
involved in the
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

complete key for a given entity. This table was created
to support record outer join.

DOCGROUP PS41258 Include File Description

FILE NAME: P5DFS
PURPOSE: DATAFIELD TABLE - HOLDS ALL DATAFIELD NUMBERS
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

FOR A RECORD/DATABASE COMBINATION FOR CODASYL
USED TO TRACK ALL FIELDS, EVEN IF NOT SELECTED, FOR BETTER
IMPACT PROCESSING.

DOCGROUP PS41258 Include File Description

FILE NAME: P5ECINF
PURPOSE: THIS TABLE CONTAINS INFORMATION ABOUT EACH UNIQUE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

ENTITY IN THE CS-ACTION-LIST. THIS INFORMATION
INCLUDES IF THE ENTITY IS HORIZONTALLY PARTITIONED
AND THE ENTITY'S RETRIEVAL/UPDATE RULES. THIS
TABLE WAS CREATED FOR RELEASE 2.3.
information added 4/89 to support record outer
join

DOCGROUP PS41258 Include File Description

FILE NAME: P5NKATT

PURPOSE: this table contains information about the non-key owned attribute

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

for a given entity. This table was created to support record outer join.

DOCGROUP PS41258 Include File Description

FILE NAME: P5ROJ

PURPOSE: THIS TABLE CONTAINS INFORMATION ABOUT EACH

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

ENTITY IN THE CS-ACTION-LIST. THIS INFORMATION INDICATES (FOR ENTITIES ENGAGED IN A RECORD OUTER JOIN) IF IT IS THE INDEPENDENT OR DEPENDENT ENTITY, WHAT RELATION(S) IT IS ASSOCIATED WITH, AND WHAT CARDINALITY IT IS INVOLVED IN.

DOCGROUP PS41258 Include File Description

FILE NAME: RFTABLE

PURPOSE: THE RESULT FIELD TABLE

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS CONCEPTUAL SCHEMA INFORMATION ABOUT THE RESULTS OF AN NDML REQUEST

THE RESULT FIELD TABLE

WHEN CHANGING THE STRUCTURE OF THIS TABLE BE SURE TO CHANGE THE LAYOUT IN THE LINKAGE SECTION OF THE DRS (CDS01) WHICH WAS COPIED FROM THIS.

DOCGROUP PS41258 Include File Description

FILE NAME: SBSTLST
PURPOSE: WS DEFINITION FOR THE SUBSTITUTION LIST TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

SUBSTITUTION-LIST REPRESENTS THE INPUT TABLE
OF SUBSTITUTION PARAMETERS FOR THE CDMACR
MACRO EXPANSION SUBROUTINE

DOCGROUP PS41258 Include File Description

FILE NAME: SUBPROC
PURPOSE: SUBTRANSACTION PROCESSES ID TABLE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS TABLE MUST HAVE THE SAME NUMBER OF OCCURS
AS THE RITABLE.INC AND QITABLE.INC SINCE THEY ARE
PARALLEL TABLES.

DOCGROUP PS41258 Include File Description

FILE NAME: THRU
PURPOSE: PROCESS ERROR INCLUDE FILE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

DOCGROUP PS41258 Include File Description

FILE NAME: TXLIST
PURPOSE: TEMP TRANSFORM LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

THIS WILL TEMPORARILY STORE METADATA ABOUT AN
NDML UPDATE REQUEST EXPRESSED IN CS TERMS
(INTERNAL TO PRE4)

DOCGROUP PS41258 Include File Description

FILE NAME: TYP2TB
PURPOSE: EXTERNAL SCHEMA ACTION LIST
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CONTAINS THE EXTERNAL SCHEMA INFORMATION FOR AN
NDML REQUEST

THE EXTERNAL SCHEMA ACTION LIST

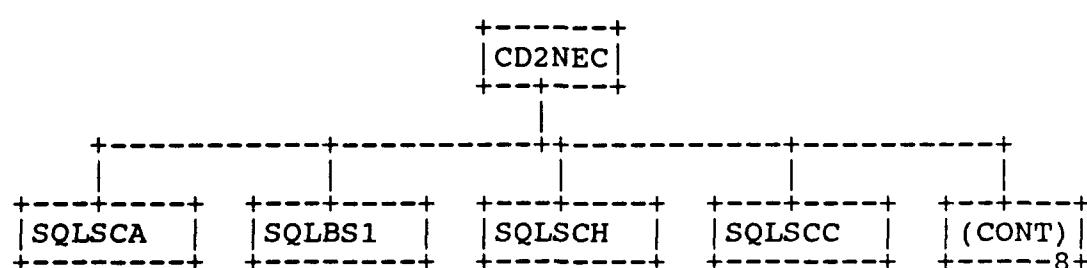
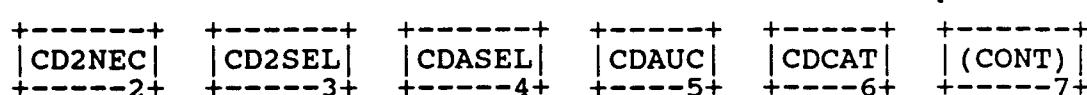
DOCGROUP PS41258 Include File Description

FILE NAME: UVABBR
PURPOSE: USER VIEW ABBREVIATION LIST
LANGUAGE: VAX-11 COBOL

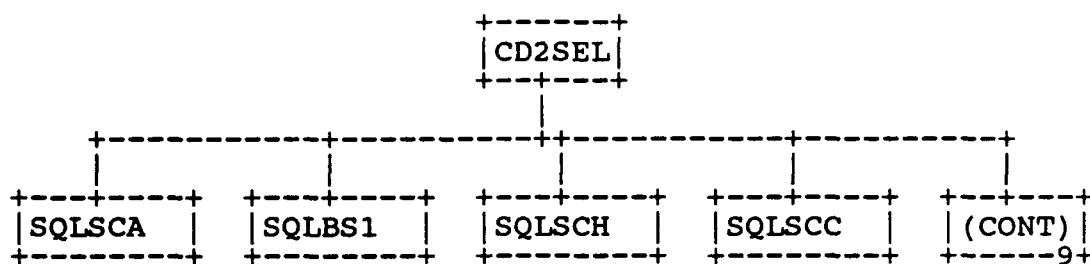
DESCRIPTION:

CONTAINS THE ABBREVIATIONS FOR ALL USER

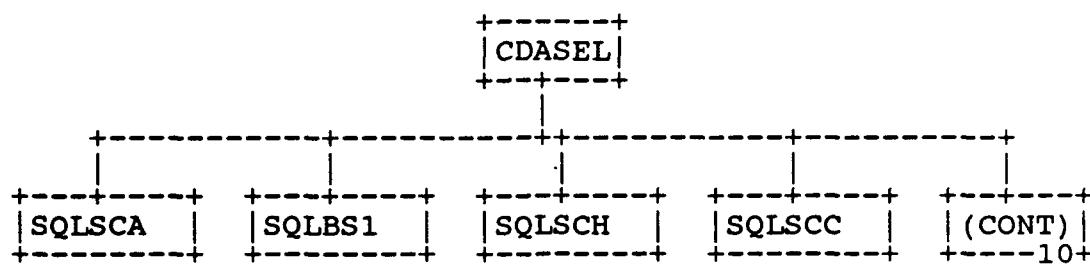
3.10.6 Hierarchy Chart



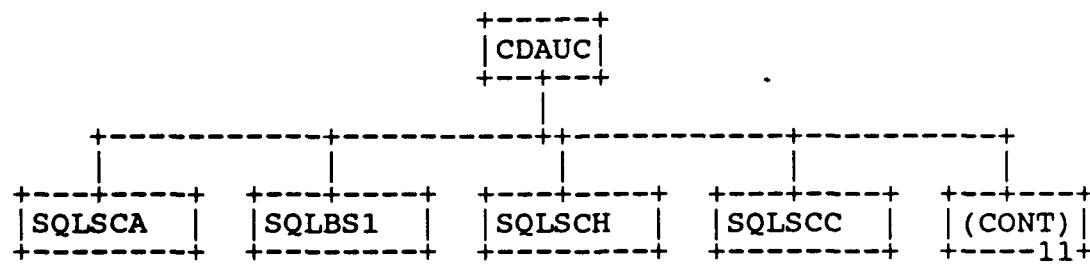
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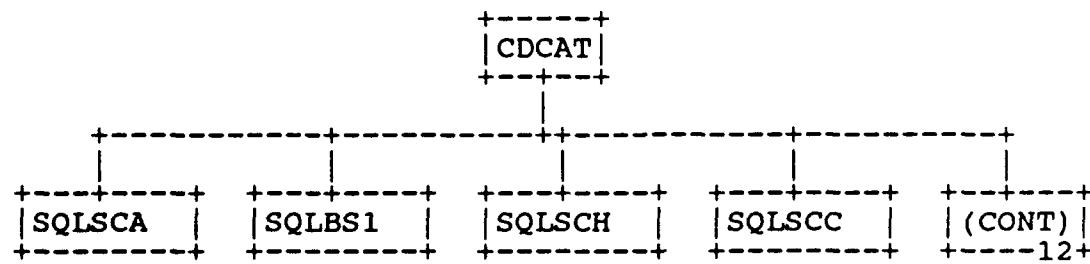
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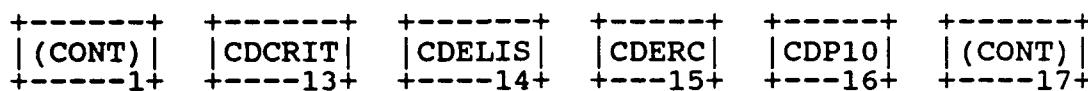
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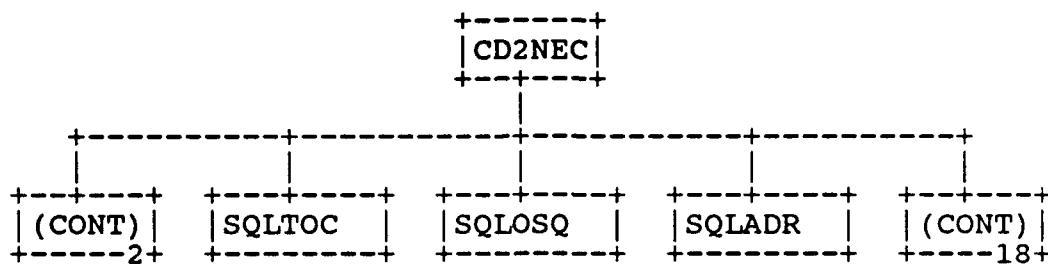
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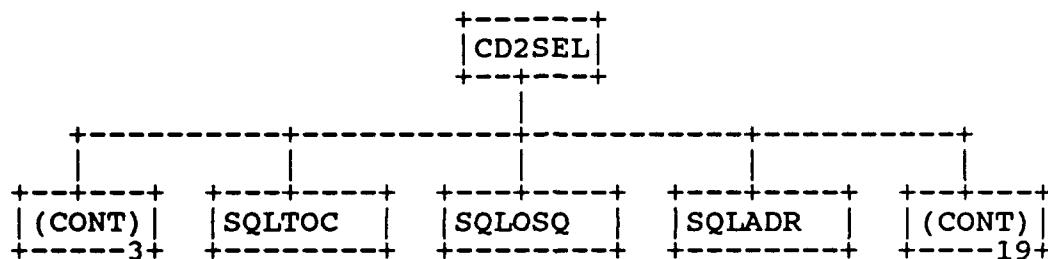
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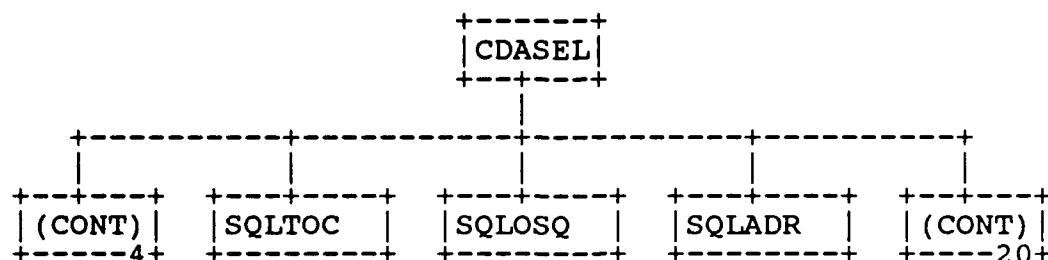
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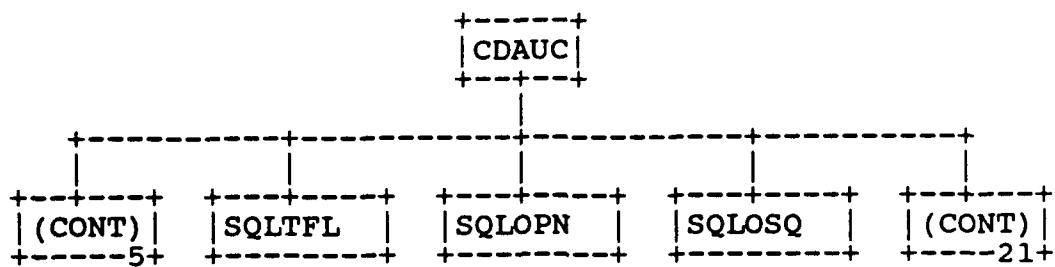
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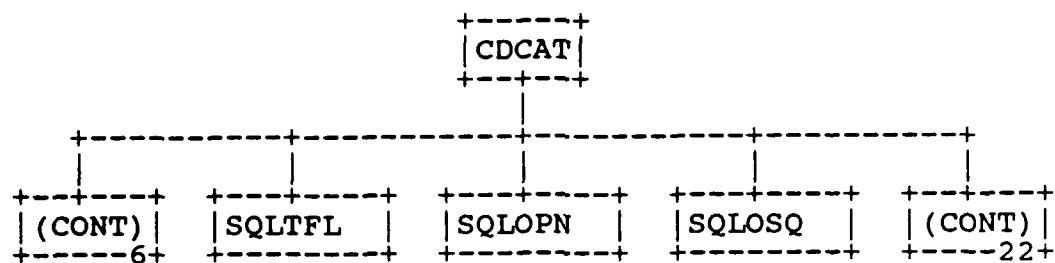
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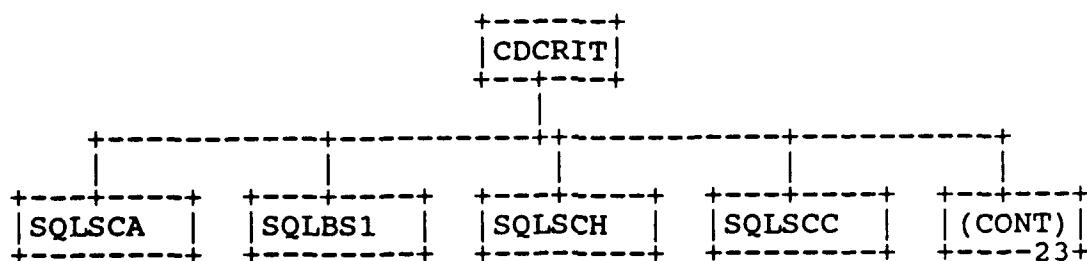
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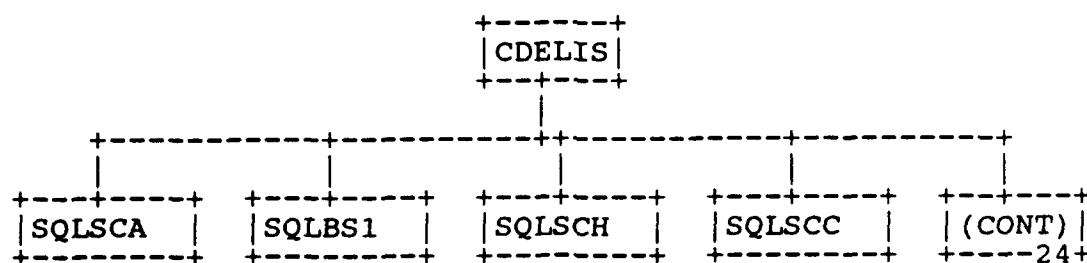
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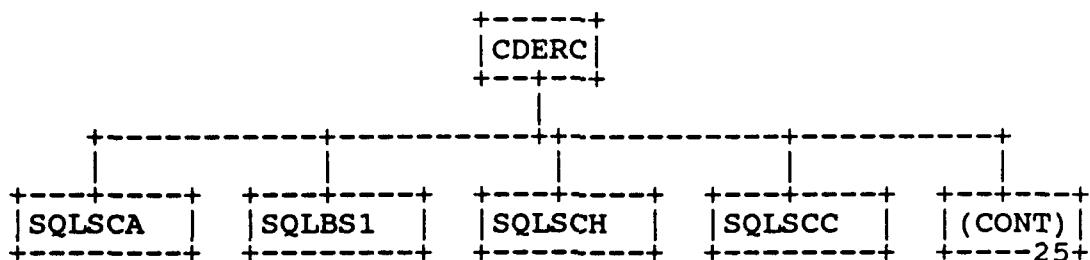
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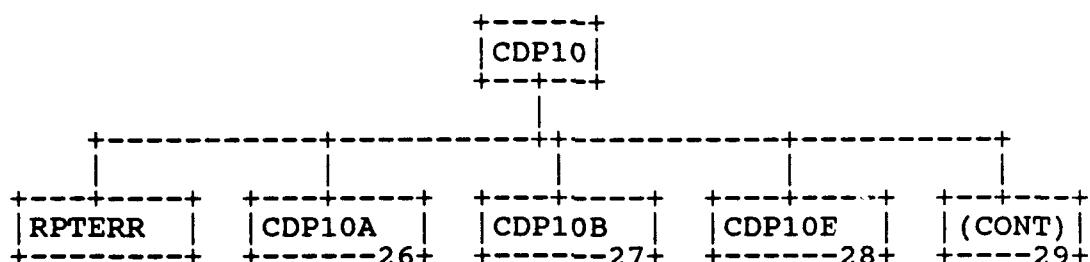
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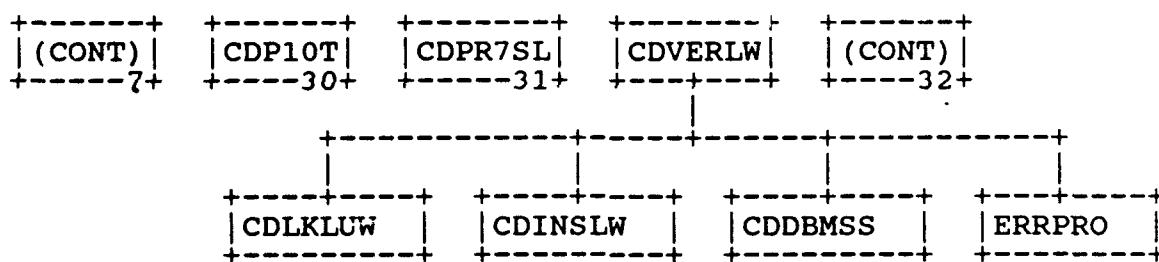
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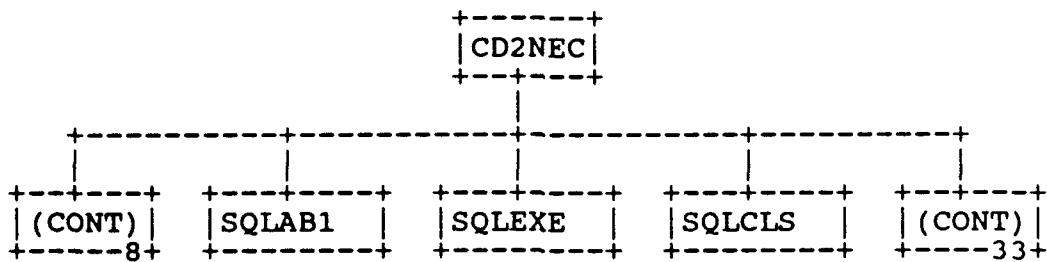
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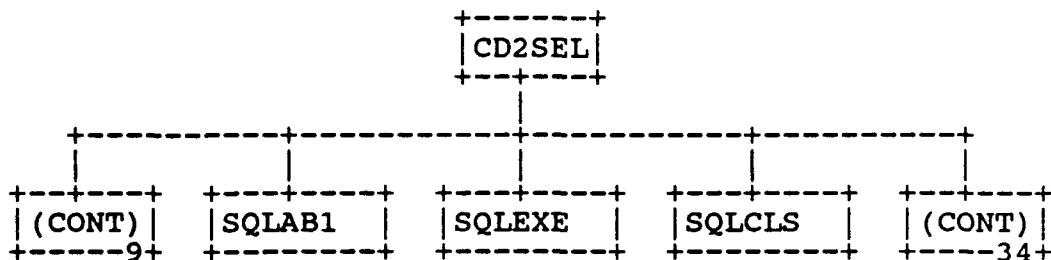
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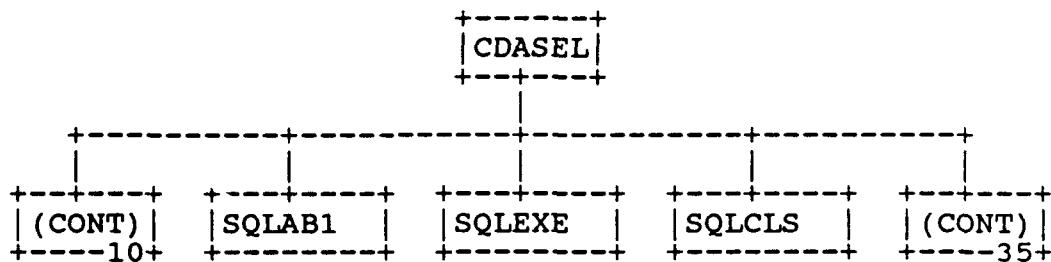
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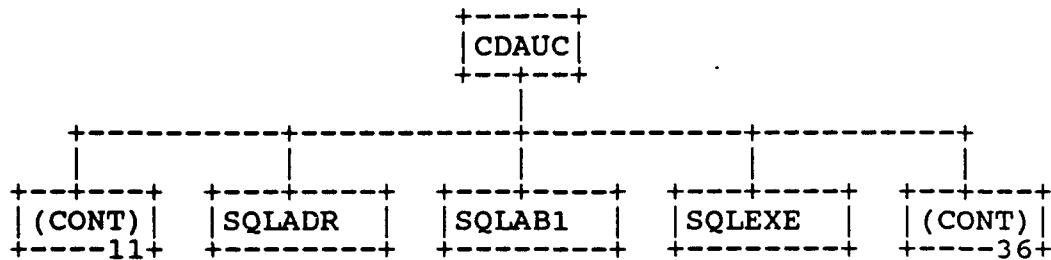
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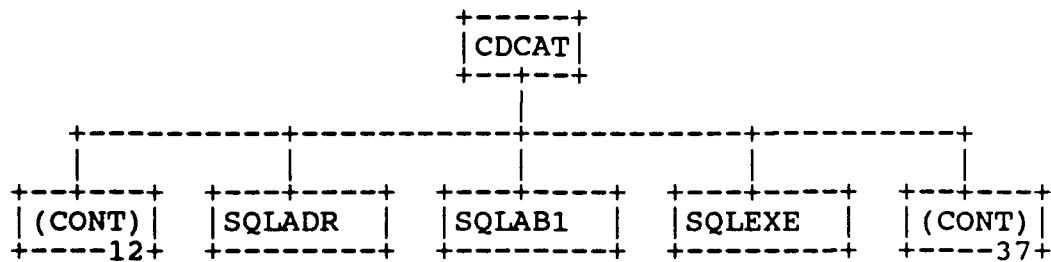
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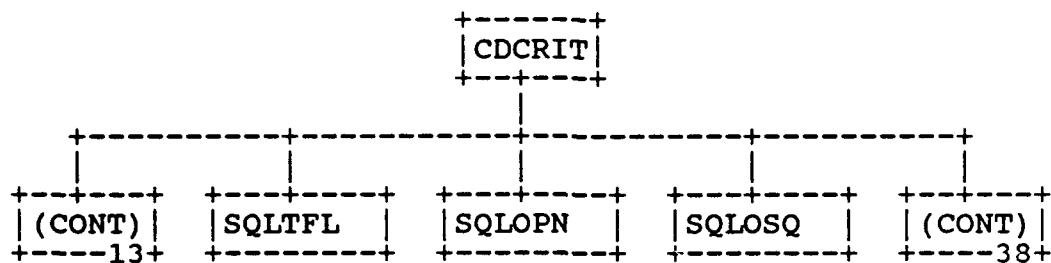
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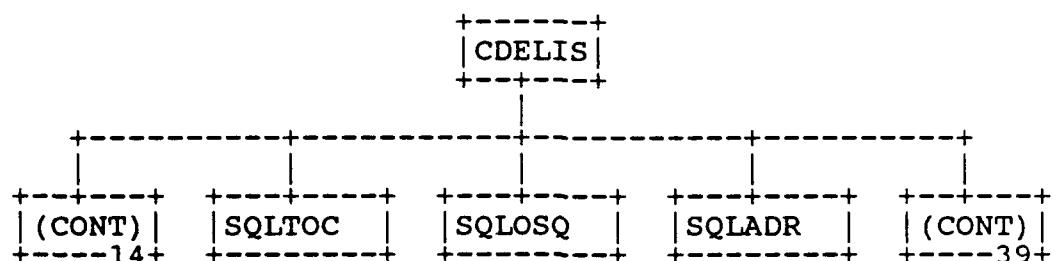
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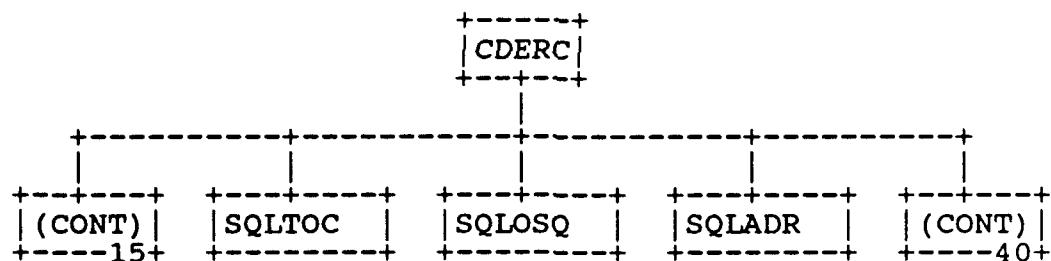
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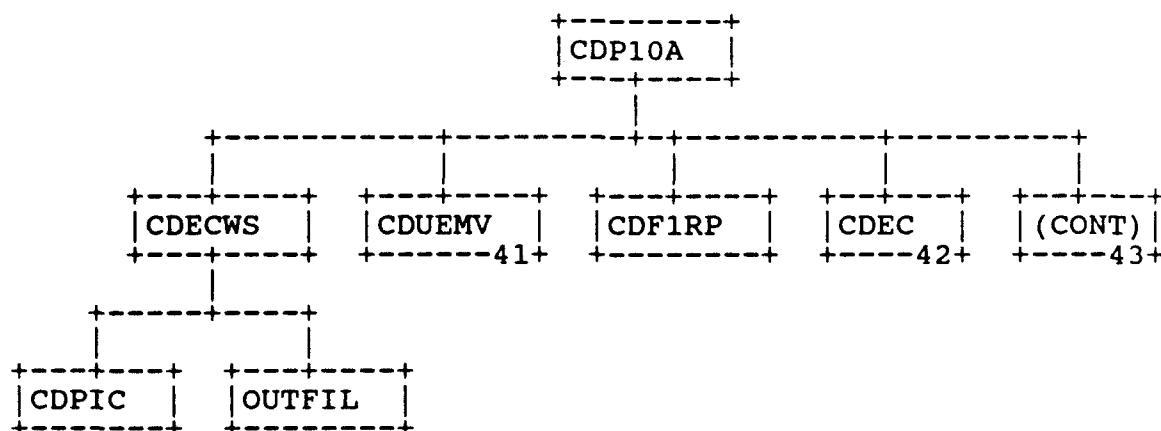
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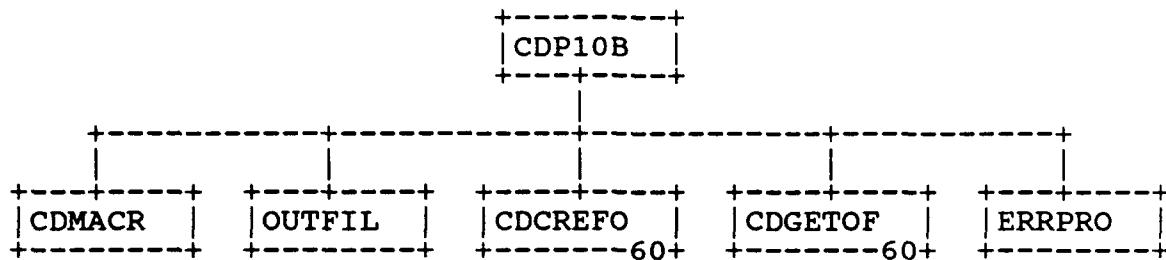
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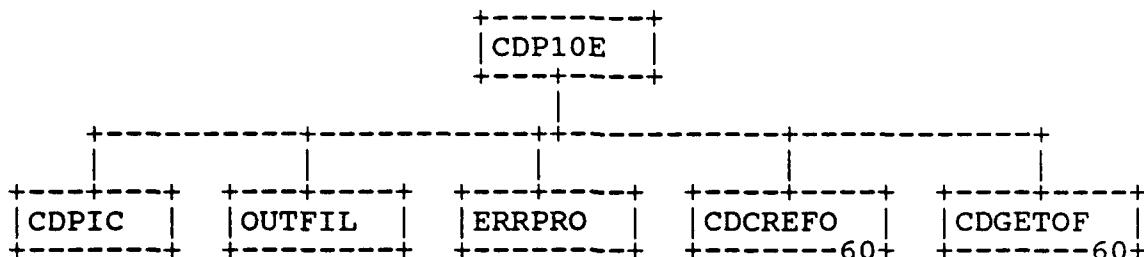
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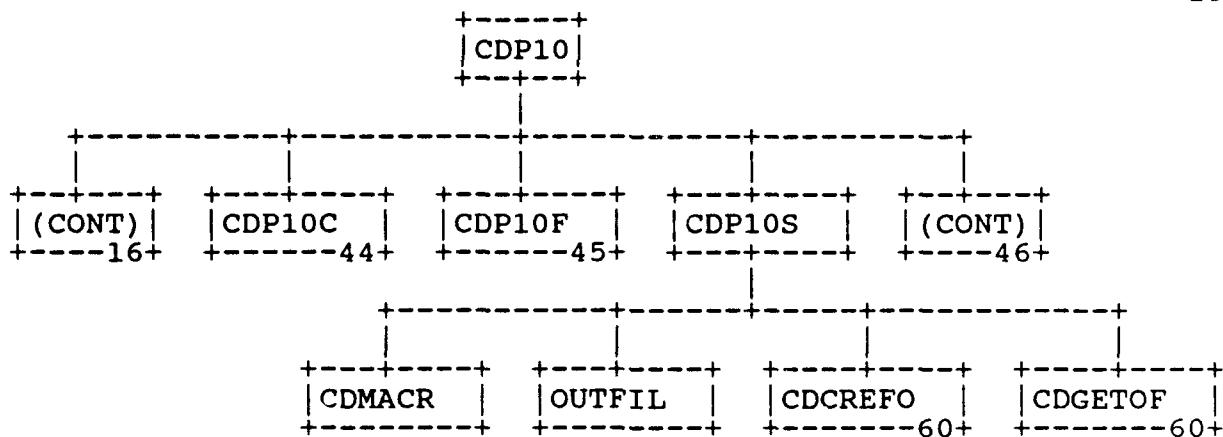
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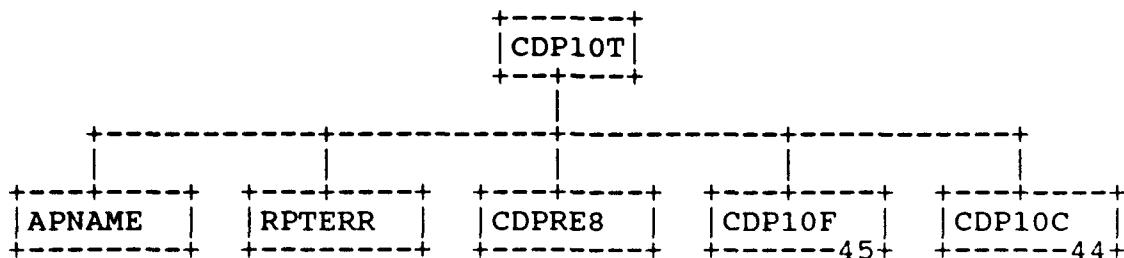
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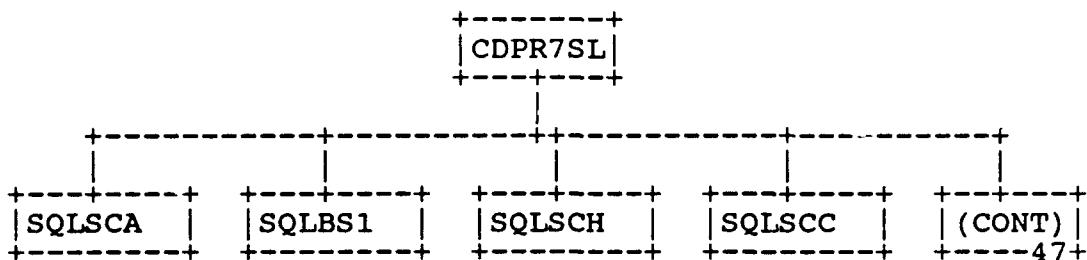
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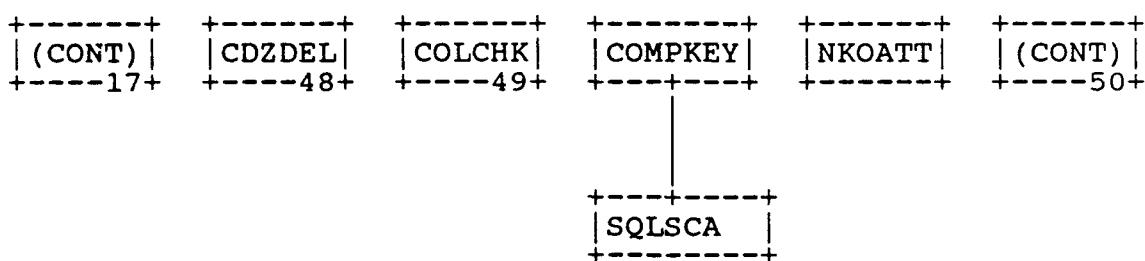
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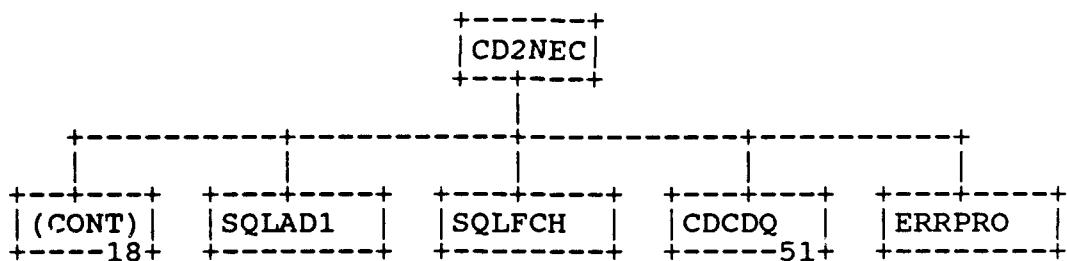
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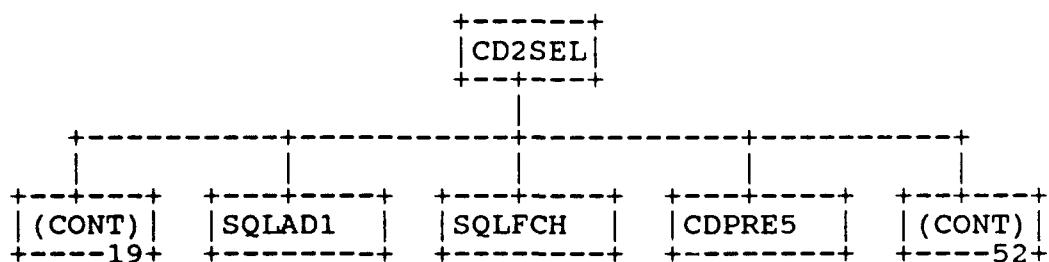
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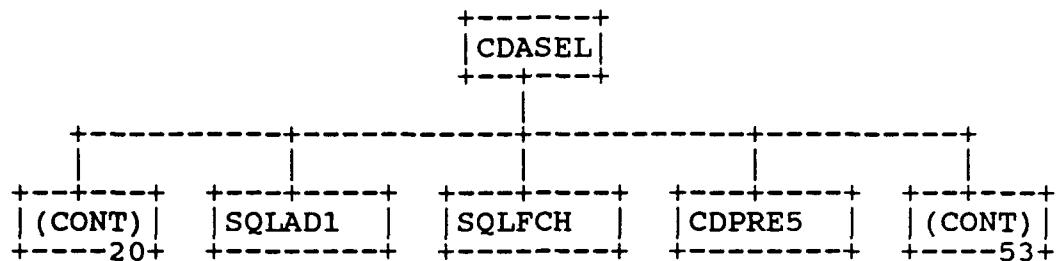
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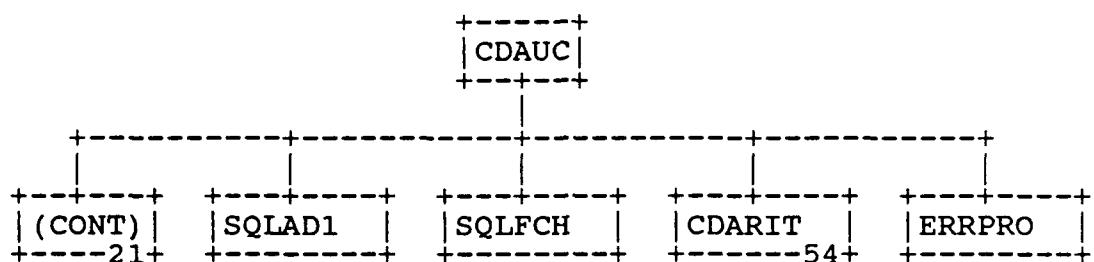
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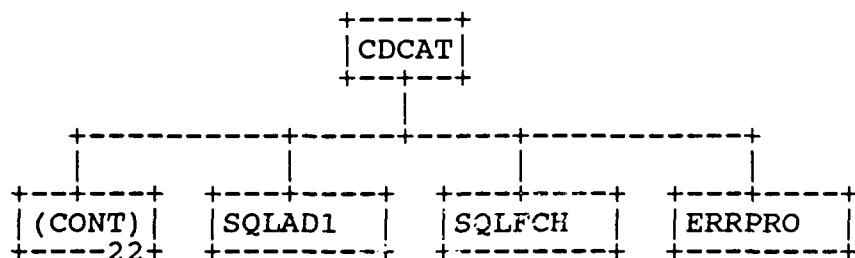
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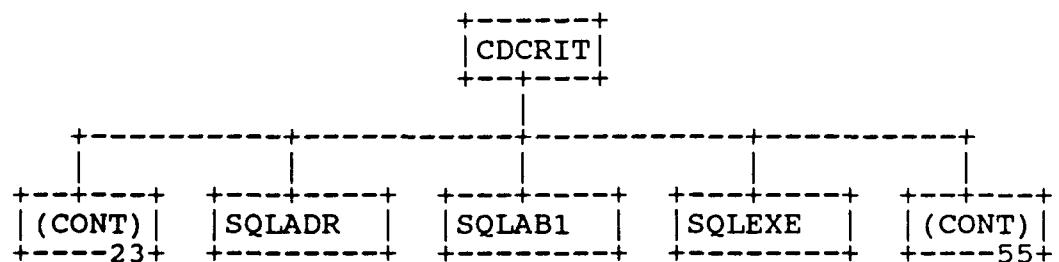
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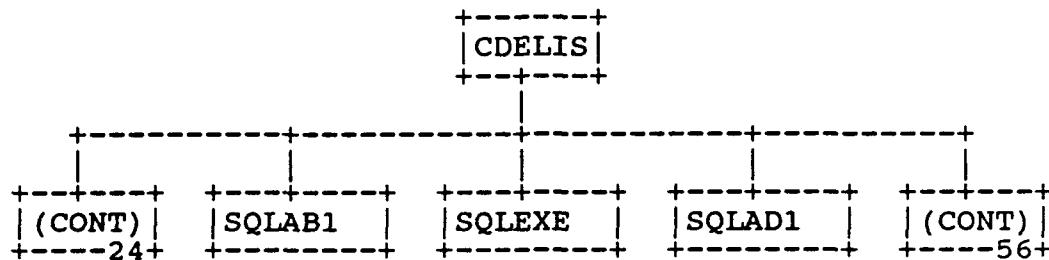
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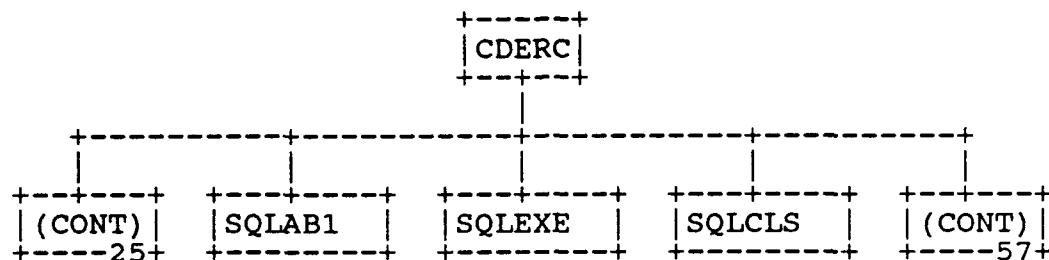
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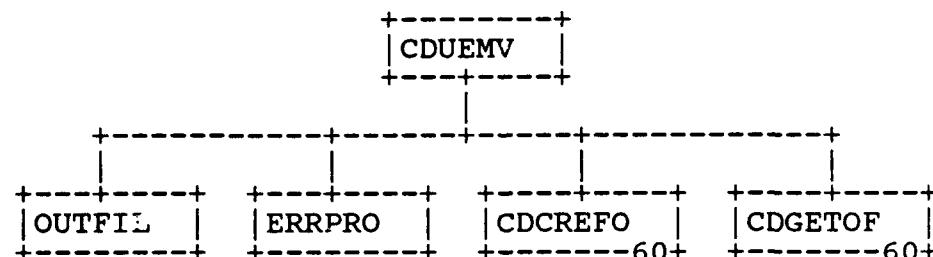
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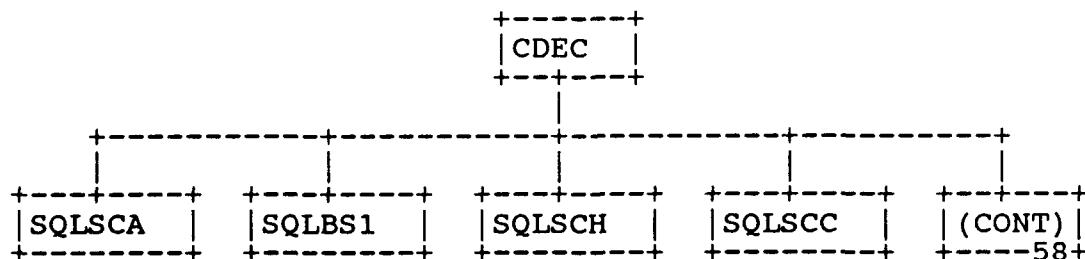
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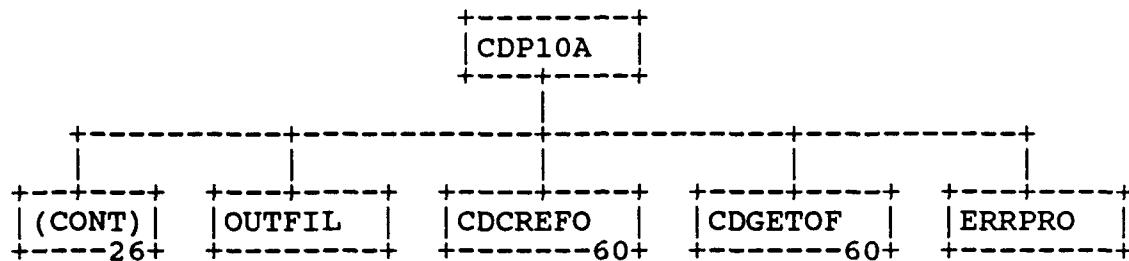
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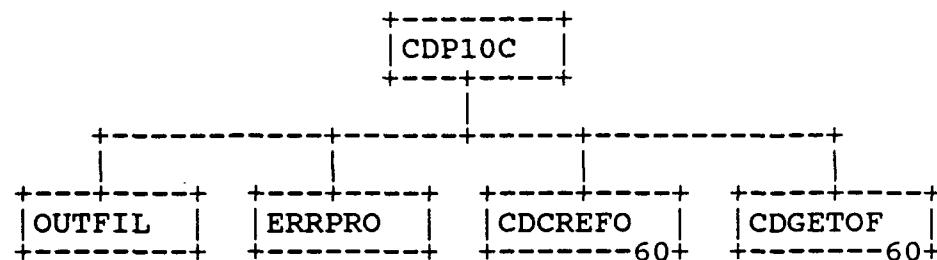
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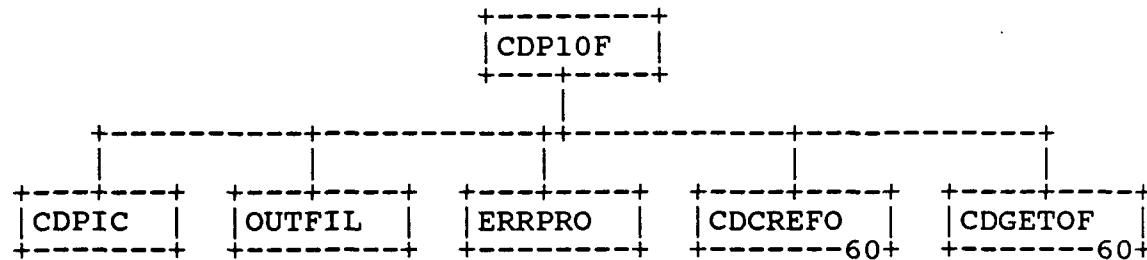
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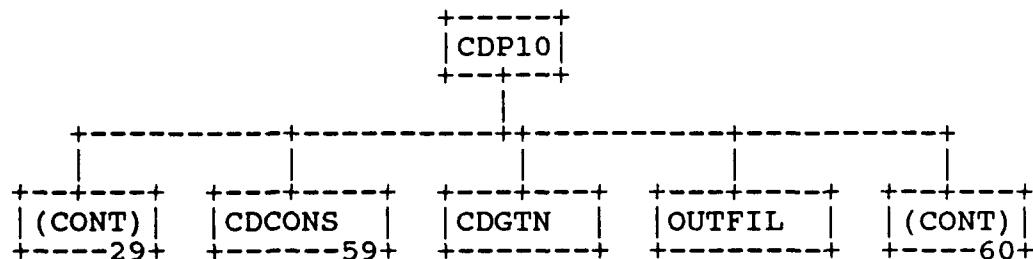
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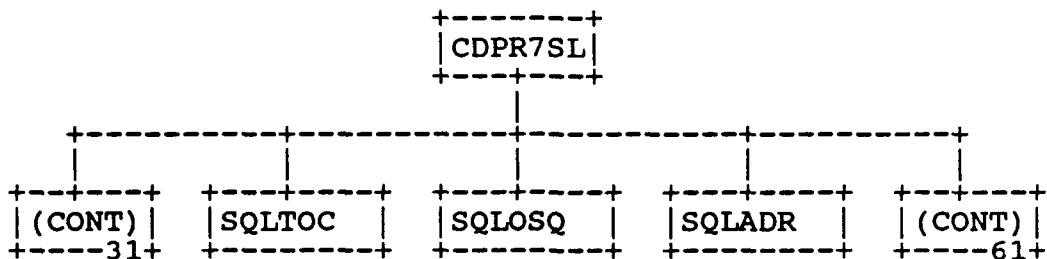
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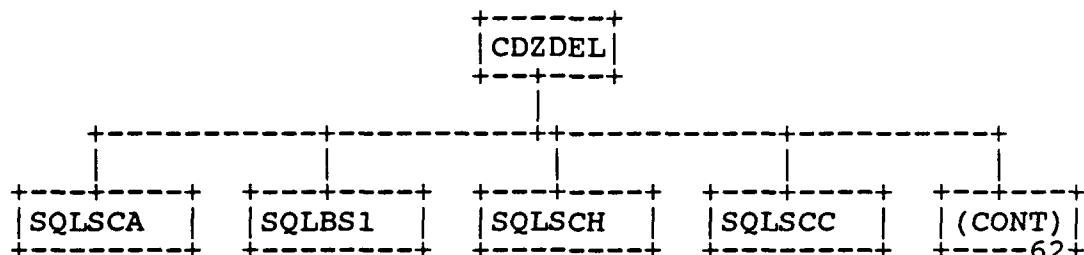
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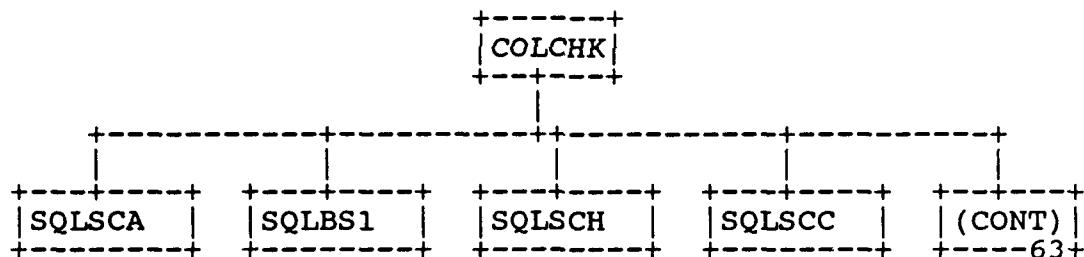
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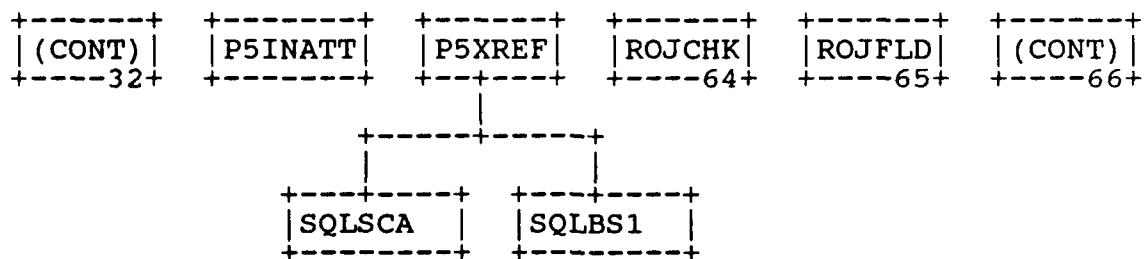
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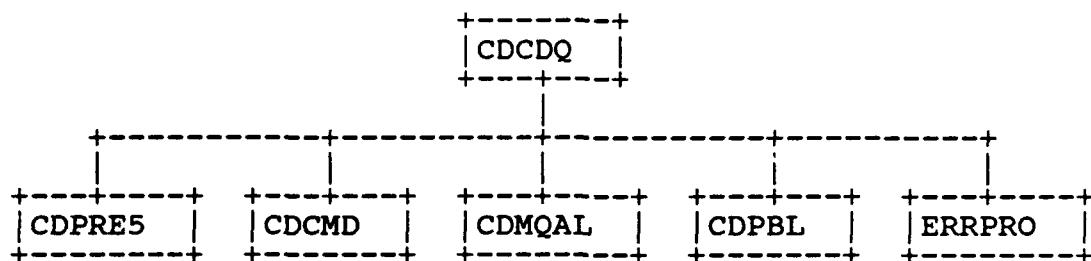
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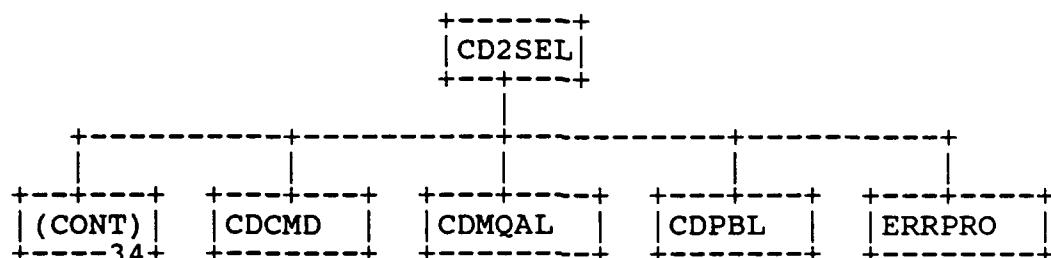
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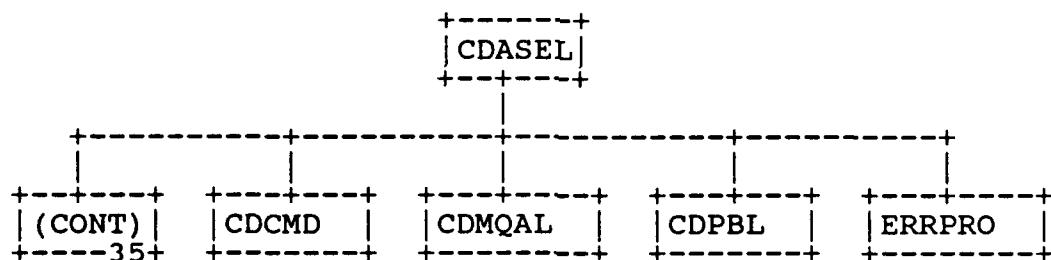
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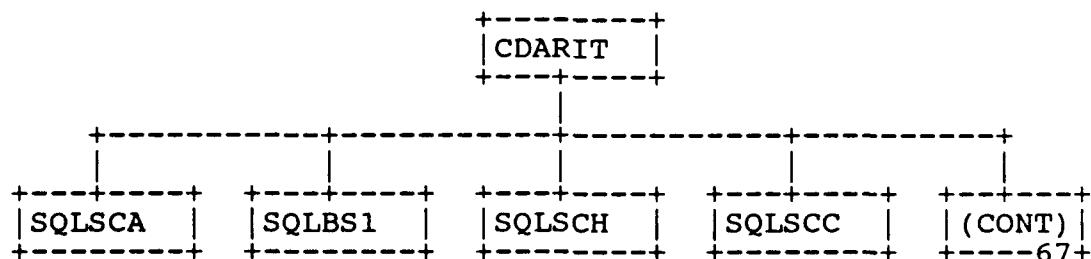
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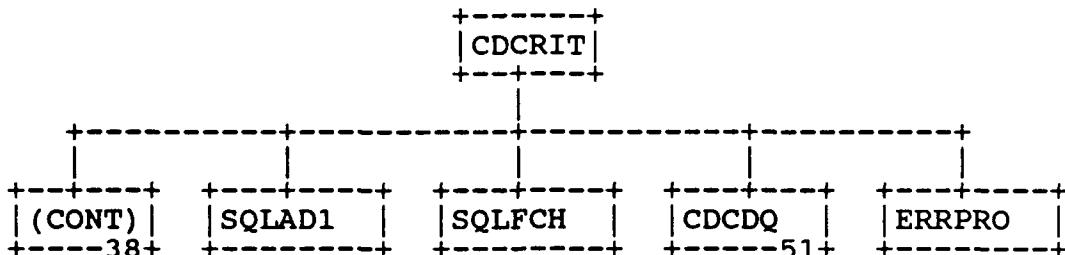
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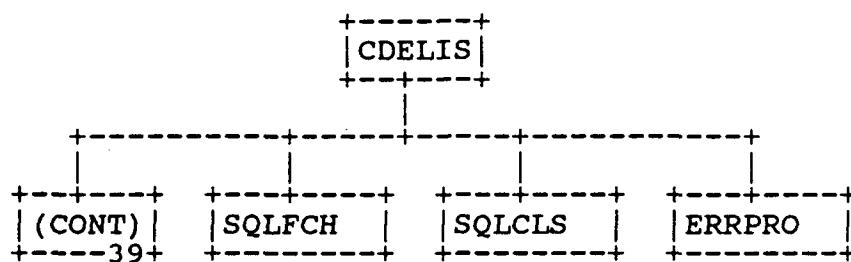
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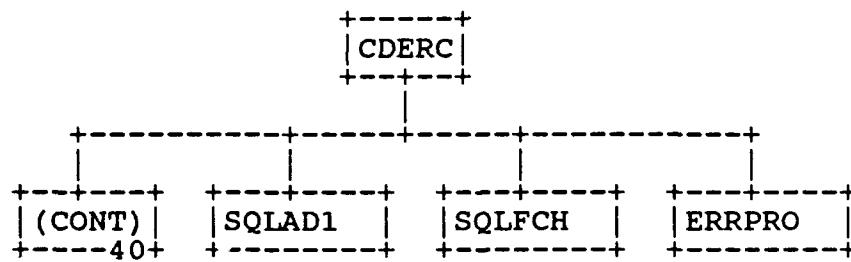
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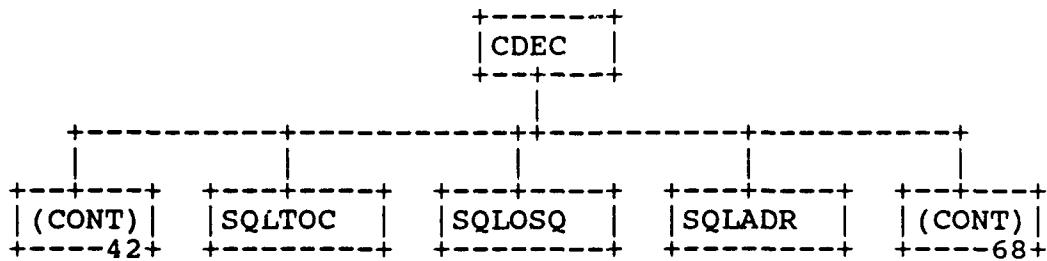
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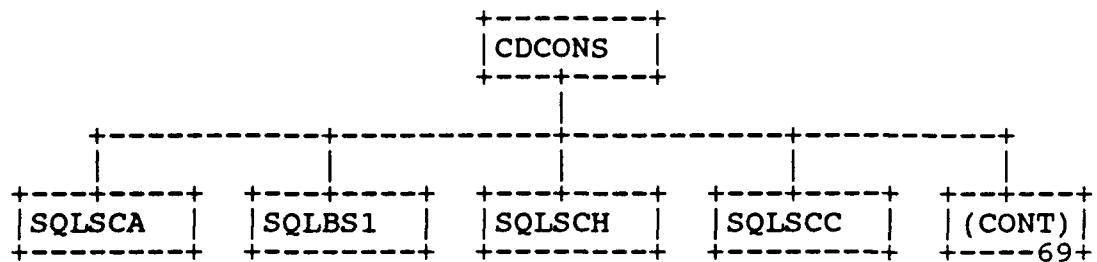
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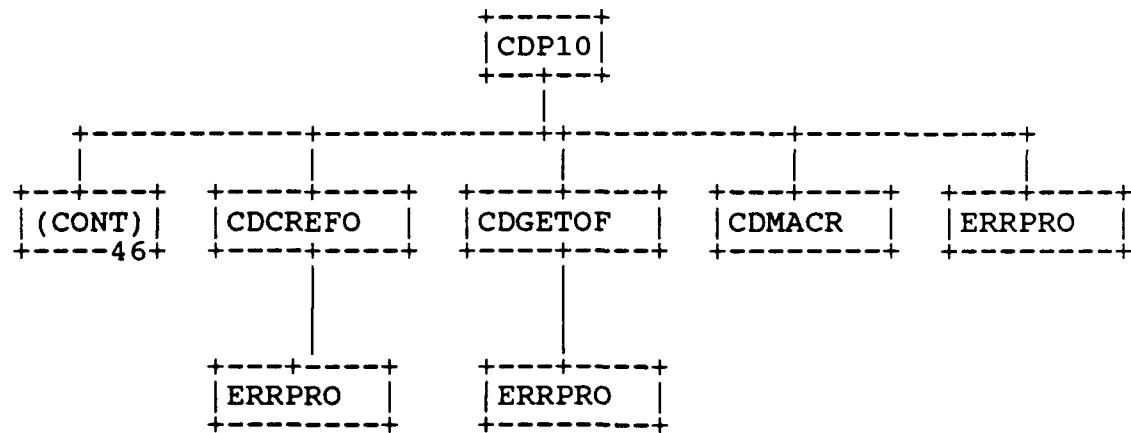
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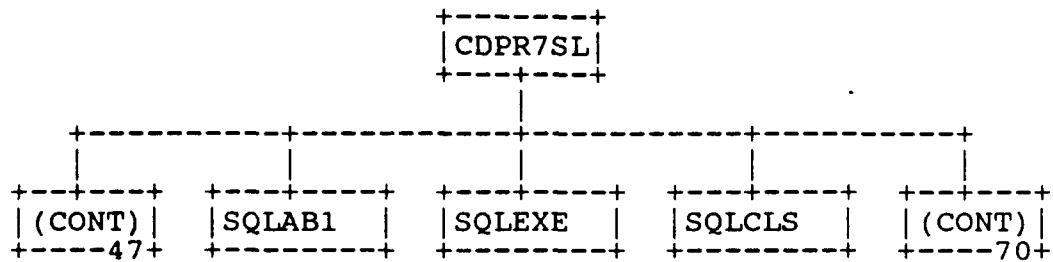
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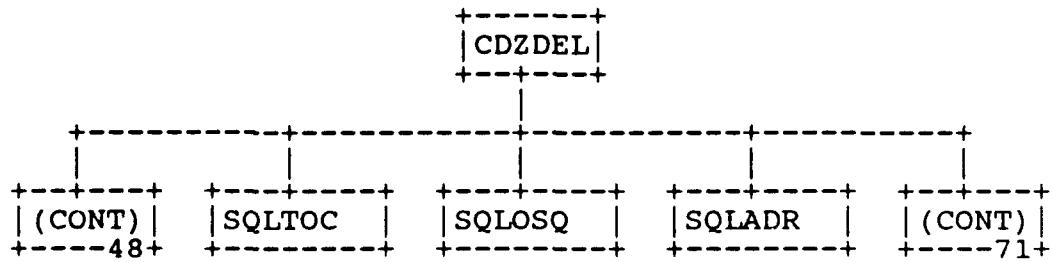
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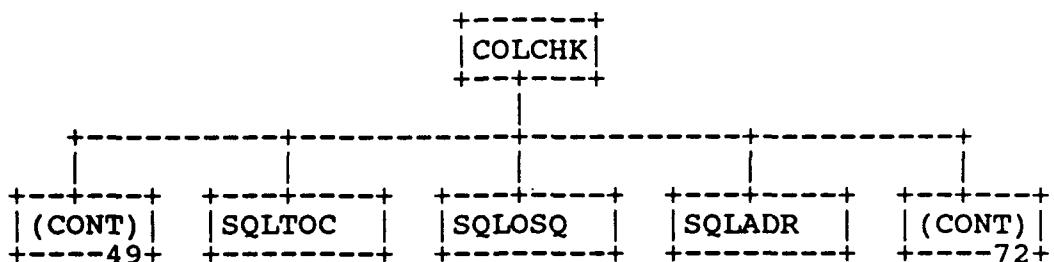
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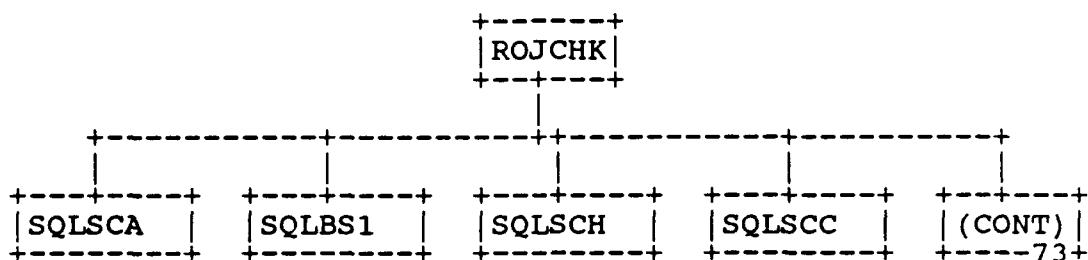
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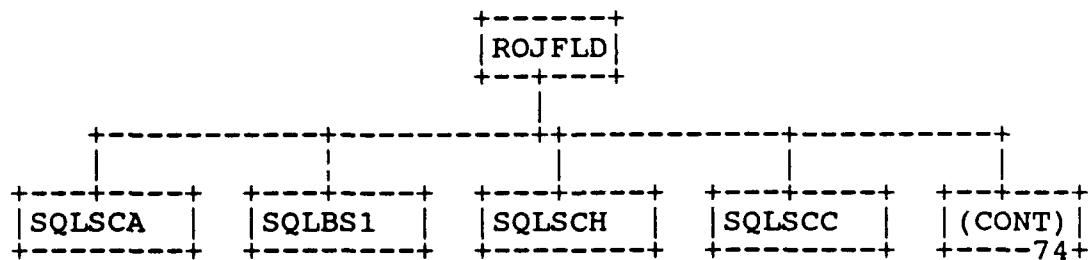
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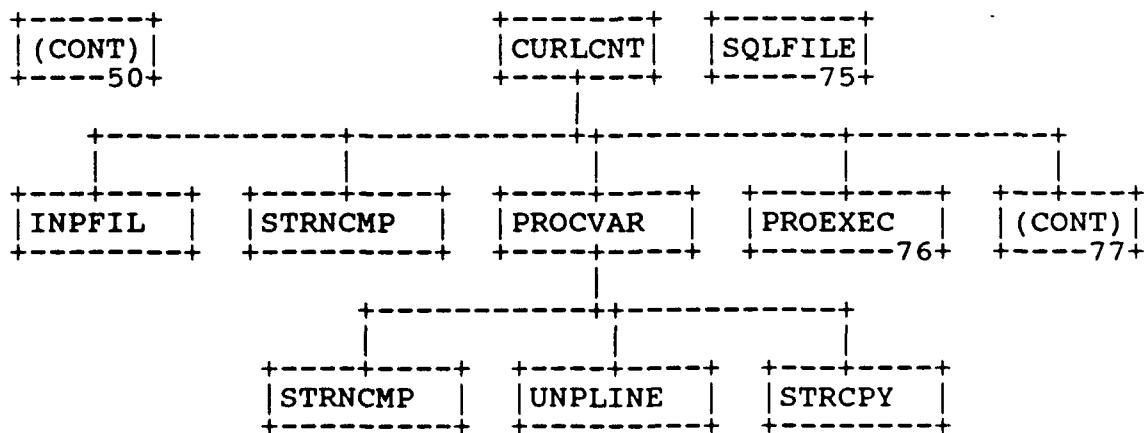
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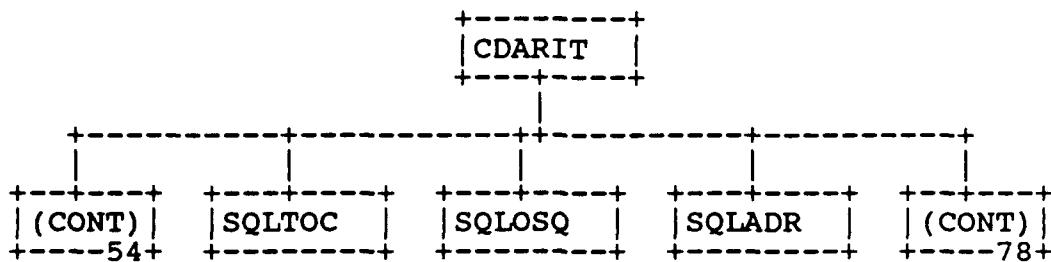
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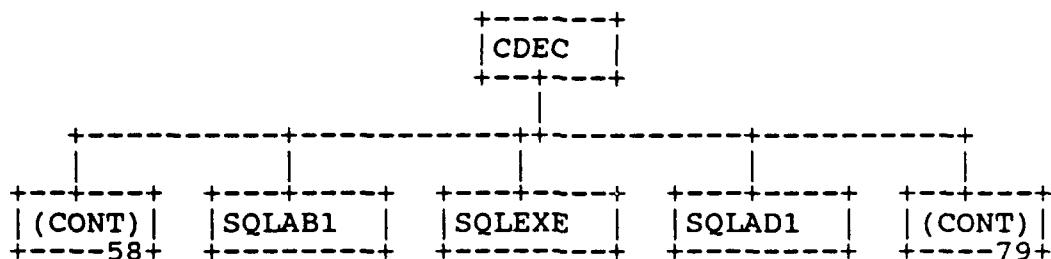
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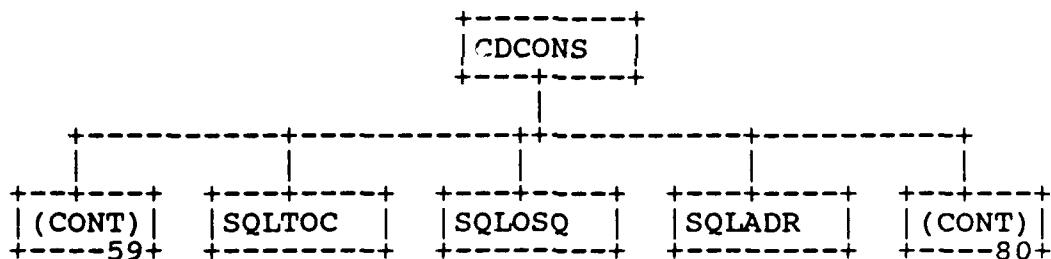
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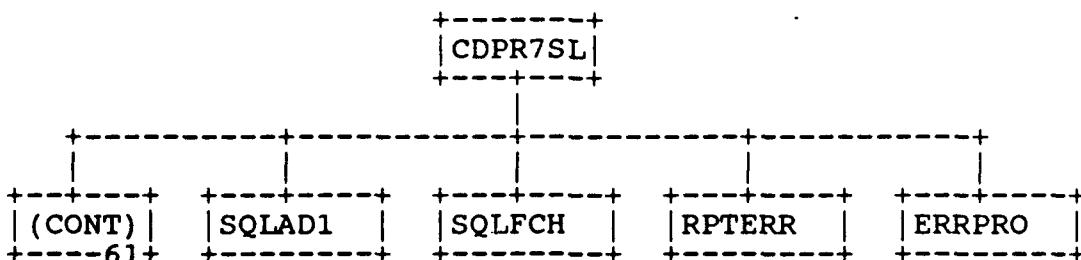
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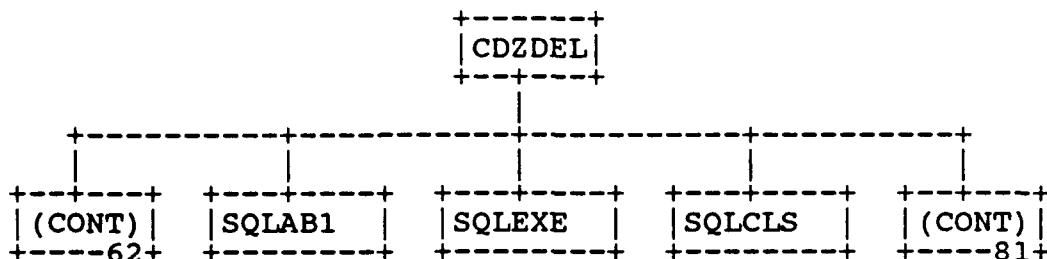
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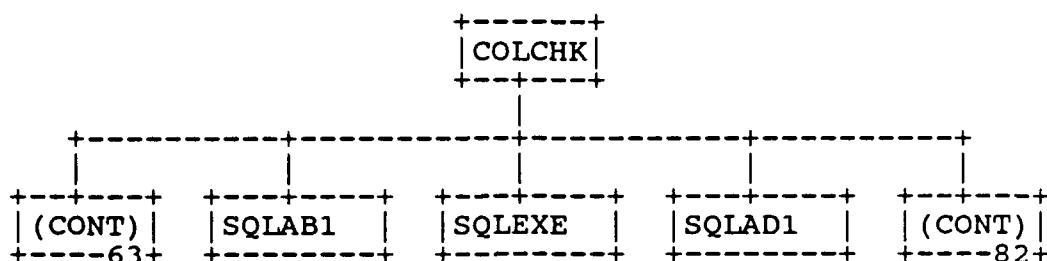
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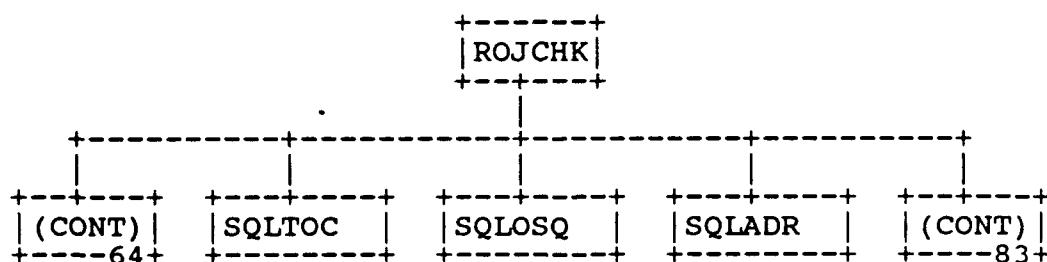
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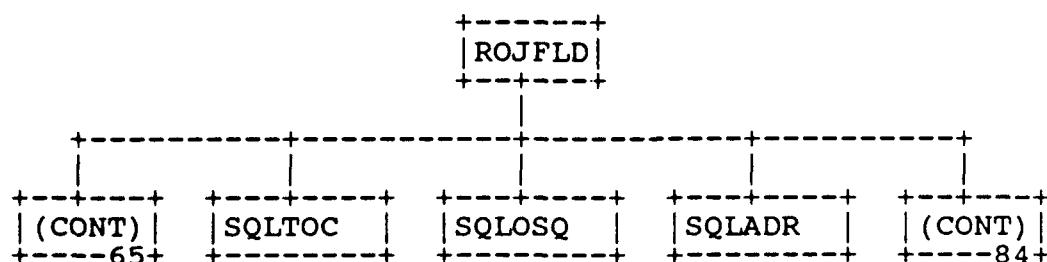
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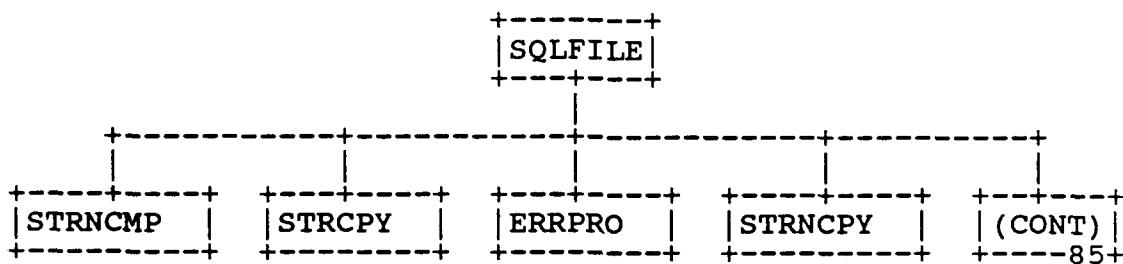
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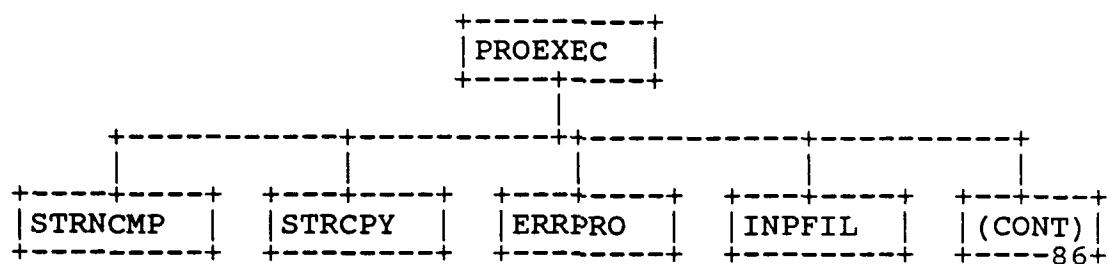
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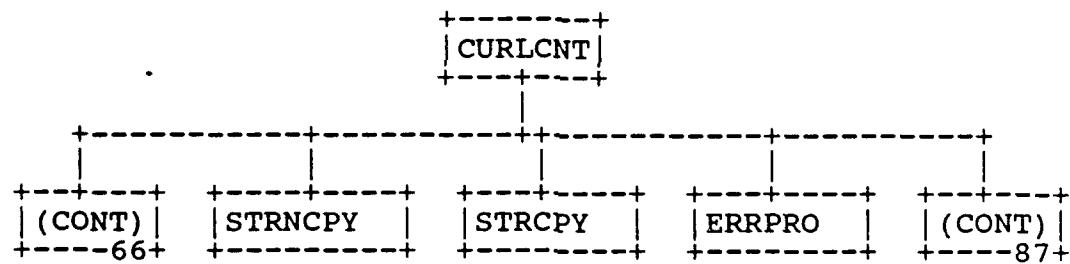
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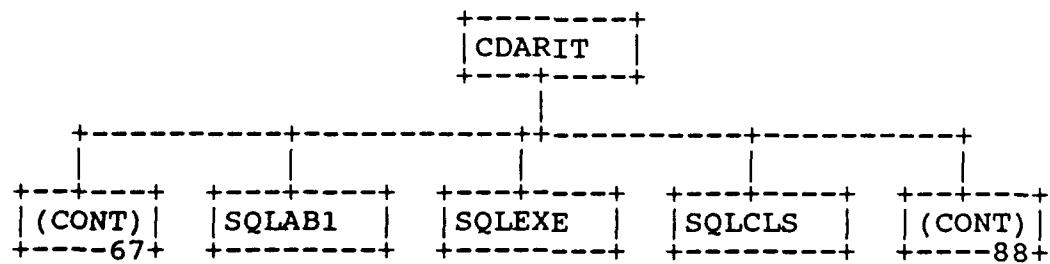
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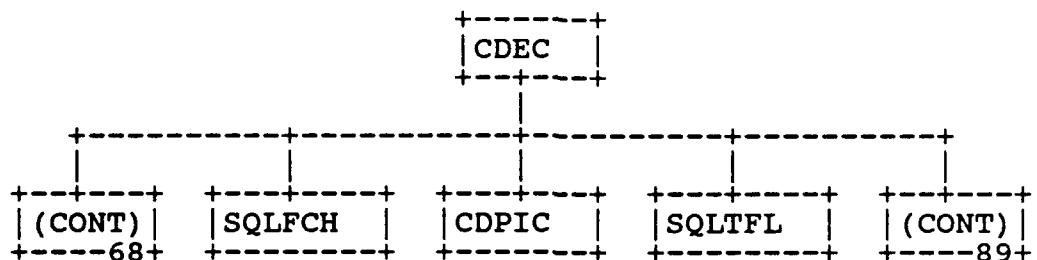
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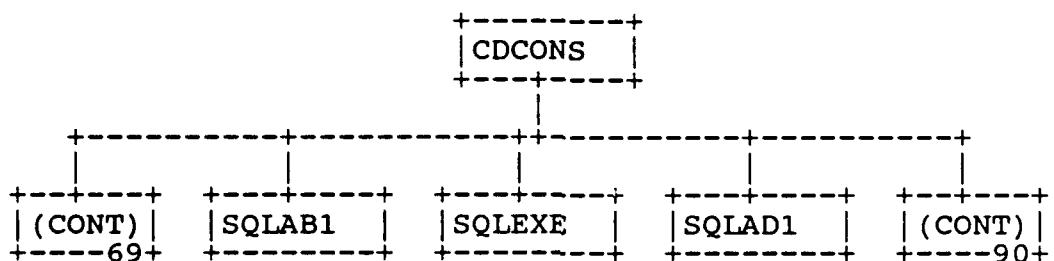
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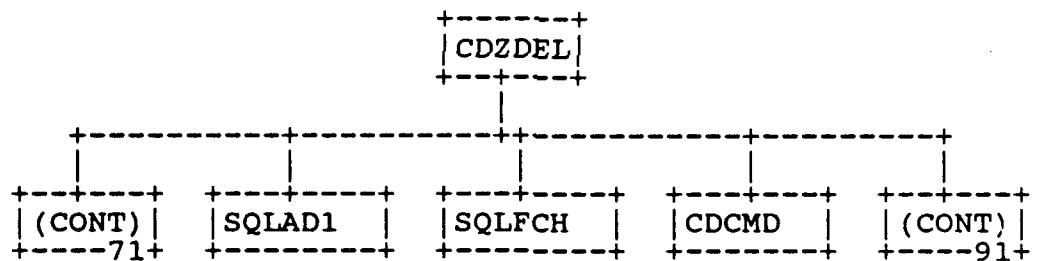
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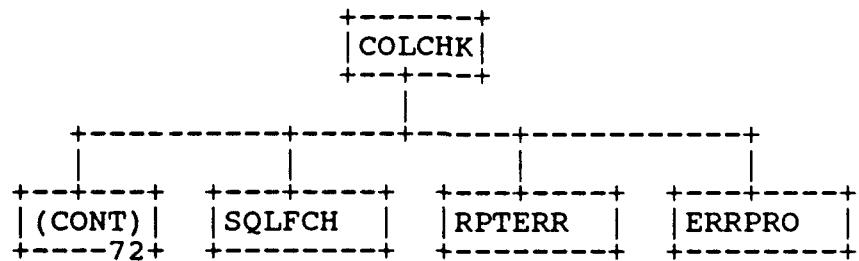
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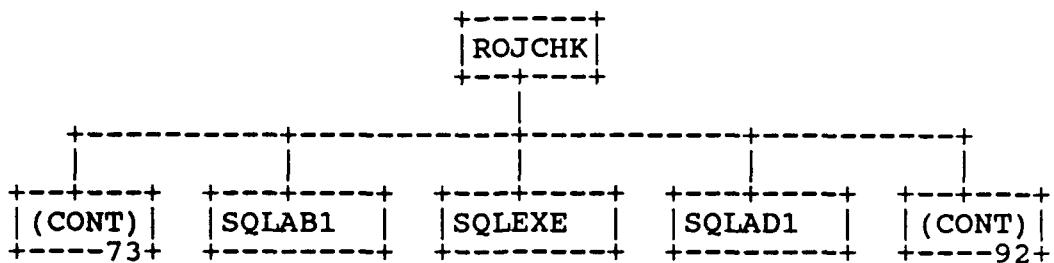
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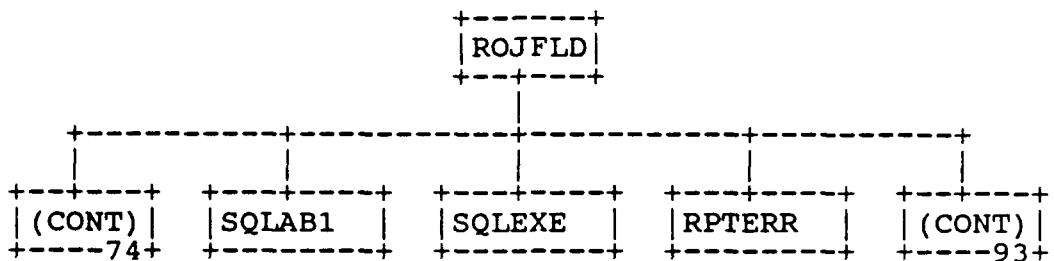
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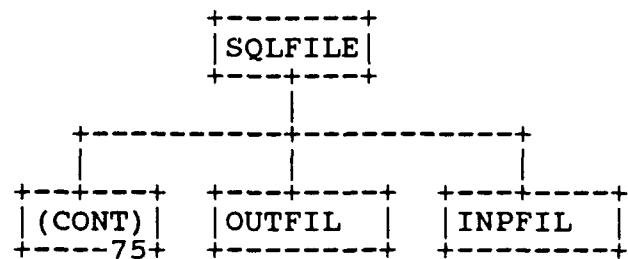
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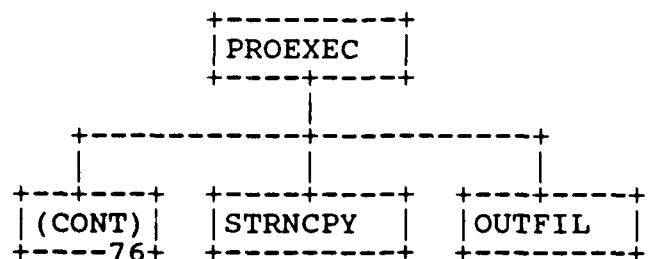
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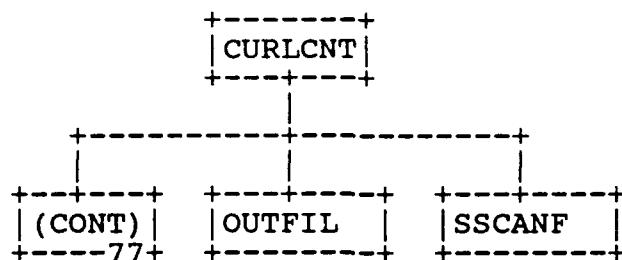
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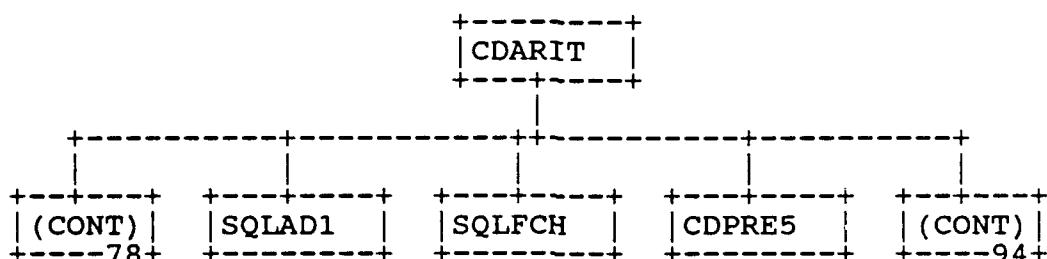
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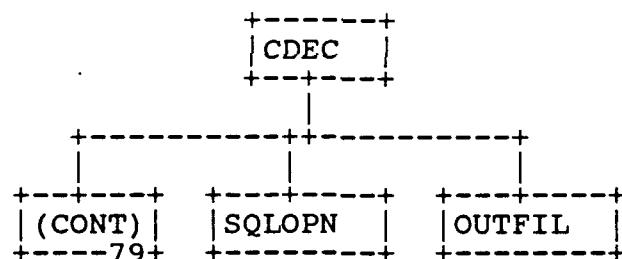
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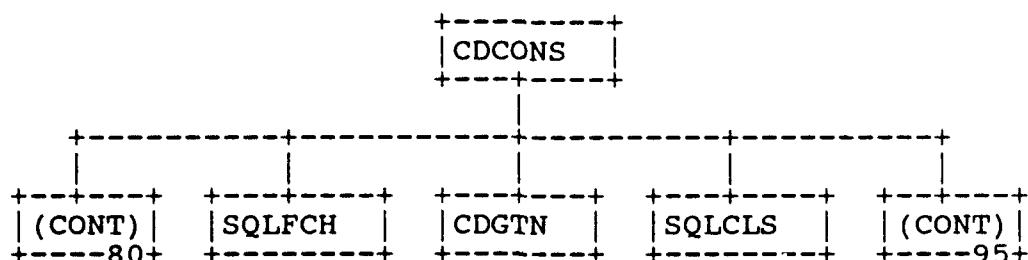
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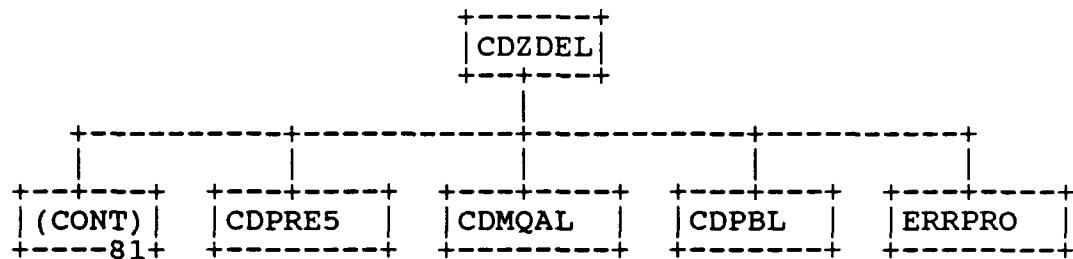
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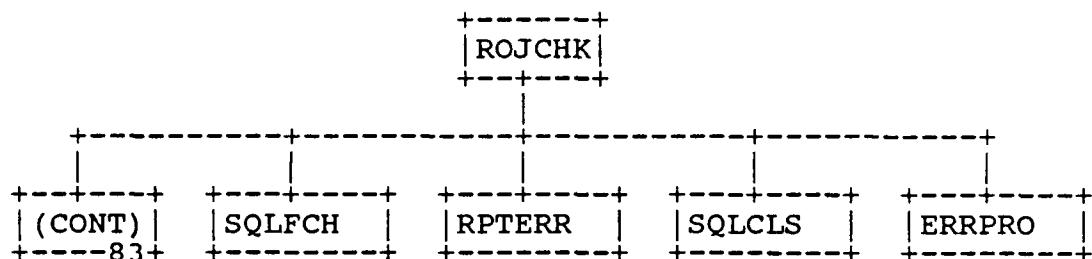
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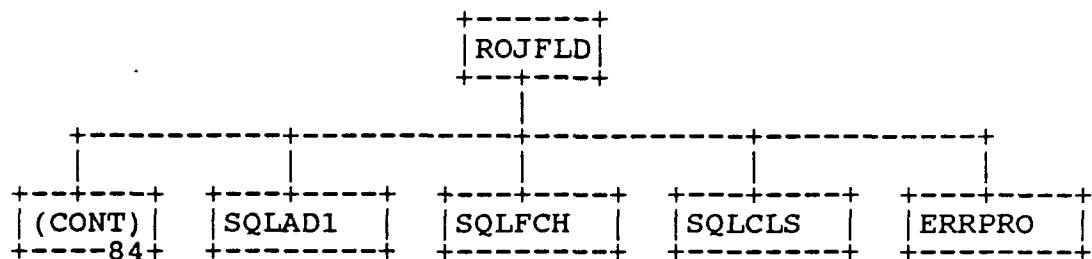
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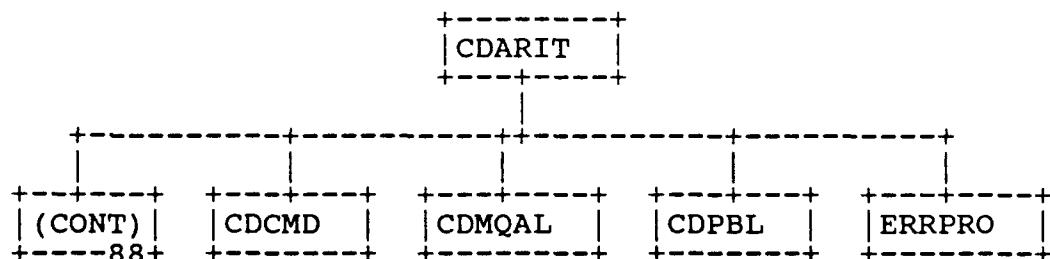
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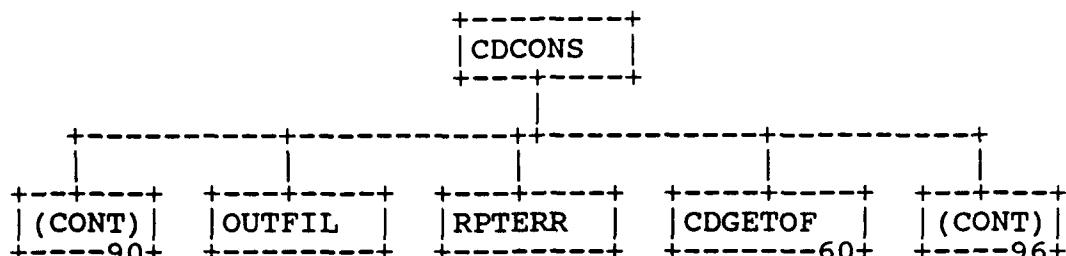
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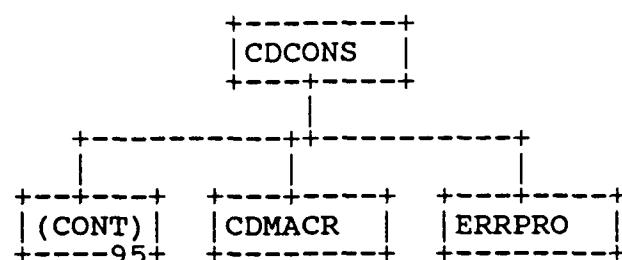
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95



96



APNAME	P5INATT
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CD2SEL.....3	PROCVAR....66
CDARIT....54	PROEXEC....76
CDASEL.....4	ROJCHK.....64
CDAUC.....5	ROJFLD.....65
CDCAT.....6	RPTERR
CDCDQ.....51	SQLAB1
CDCMD	SQLAD1
CDCONS....59	SQLADR
CDCREFO...60	SQLBS1
CDCRIT....13	SQLCLS
CDDBMSS	SQLEXE
CDEC.....42	SQLFCH
CDECWS....26	SQLFILE....75
CDELIS.....14	SQLOPN
CDERC.....15	SQLOSQ
CDF1RP	SQLSCA
CDGETOF...60	SQLSCC
CDGTN	SQLSCH
CDINSLW	SQLTFL
CDLKLUW	SQLTOC
CDMACR	SSCANF
CDMQAL	STRCPY
CDP10.....16	STRNCMP
CDP10A....26	STRNCPY
CDP10B....27	UNPLINE
CDP10C....44	
CDP10E....28	
CDP10F....45	

CDP10S29
CDP10T.....30
CDPBLS
CDPIC
CDPR7SL....31
CDPRE5
CDPRF8
CDUEMV41
CDVERLW....17
CDZDEL.....48
COLCHK.....49
COMPKEY.....32
CURLCNT....66
ERRPRO
INPFIL
NKOATT
OUTFIL

3.11 Program Listings Comments

This information is contained in the Module Descriptions in section 3.10.

SECTION 4

QUALITY ASSURANCE PROVISIONS

4.1 Introduction and Definitions

"Testing" is a systematic process that may be preplanned and explicitly stated. Test techniques and procedures may be defined in advance, and a sequence of test steps may be specified. "Debugging" is the process of isolation and correction of the cause of an error.

"Antibugging" is defined as the philosophy of writing programs in such a way as to make bugs less likely to occur and when they do occur, to make them more noticeable to the programmer and the user. In other words, as much error checking as is practical and possible in each routine should be performed.

4.2 Computer Programming Test and Evaluation

The quality assurance provisions for test consists of the normal testing techniques that are accomplished during the construction process. They consist of design and code walk-throughs, unit testing, and integration testing. These tests are performed by the design team. Structured design, design walk-through and the incorporation of "antibugging" facilitate this testing by exposing and addressing problem areas before they become coded "bugs."