IBM DATABASE 2 Version 2.1.0 Performance Report - Appendices

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DB2 Common Server Performance Group

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Comments/Questions to DB2TECH at TOROLAB2

Preface

This report provides query, database, and configuration descriptions to accompany the *DB2 Version 2.1.0 Performance Report*.

Comments or questions on this report can be submitted via IBM personnel as designated on the cover page.

Version Notice

This is **version 1.0** of this document.

Summary of Changes

Future changes to this document, if required, will be summarized at this section in reverse chronological sequence. Revision bars (|) will highlight the text changed in new document versions.

Contents

Figures

Appendix A. Benchmark and Database Specifications

A.1 SPEC

A.1.1 SPEC Queries

The syntax of the SPEC queries is shown in A.1.6, “SPEC Explain Output” on page 14.

The last 4 SPEC queries are utilities (table reorganization, update statistics, export and import) in the form of DB2 V2.1.0 API calls in the C language, which are shown here.

```
Query # 39
==========
SQL Statement:(API Calls in C)

 sqlureor (env.db,                            /* DB name */
           "NEWTON.TABLEA",                   /* table name */
           "NEWTON.INDXA1",                   /* index name */
           NULL,                              /* temp file */
           &sqlca);

Query # 40
==========
SQL Statement:(API Calls in C)

 sqlustat("NEWTON.TABLEA",               /* table name */
          0,                             /* calculate all indexe */
          index_list,                    /* index name */
          'B',                           /* for both table and indexes*/
          'C',                           /* allow others read/write */
          &sqlca);

Query # 41
==========
SQL Statement:(API Calls in C)

 sqluexp (env.db,                             /* DB name */
          exp.filename,                       /* export file name */
          &(exp.dcoldata),                    /* export column info */
          (struct sqlchar *) &(exp.tcolstrg), /* export table info */
          "del",                              /* file type */
          (struct sqlchar *) &(imp.filetmod), /* file tmode */
          exp.msgfile,                        /* msgfile */
          0,                                  /* caller action */
          &sqlca);
Query # 42
==========
SQL Statement:(API Calls in C)

 sqluimp (env.db,                            /* DB name */
          imp.filename,                      /* import file name */
          &(imp.dcoldata),                   /* import column info */
          (struct sqlchar *) &(imp.tcolstrg), /* import table info */
          "DEL",                             /* file type */
          (struct sqlchar *) &(imp.filetmod), /* file tmode */
          imp.msgfile,                       /* msgfile */
          0,                                 /* caller action */
          &sqlca);
```

Figure 1. SPEC Queries 39-42

A.1.2 SPEC Database: Data Characteristics

The SPEC database consists of seven tables: TABLEA, TABLEB, TABLEC, TABLEG, TABLEH, TABLEI, and TABLEJ. Two views are built against TABLEJ. All the tables have the same record layout but the sizes are progressively larger, except TABLEI.

- TABLEA - 10000 rows
- TABLEB - 20000 rows
- TABLEC - 30000 rows
- TABLEG - 40000 rows
- TABLEH - 50000 rows
- TABLEI - 0 rows (for insert test)
- TABLEJ - 100000 rows

- VIEWJ1 - Select * from TABLEJ where field12=77 or field12=99
- VIEWJ2 - Select * from TABLEJ where field3=77 or field3=99

The record layout is shown below.

- field1 integer NOT NULL,
- field2 integer NOT NULL,
- field3 integer NOT NULL,
- field4 char(23) NOT NULL,
- field5 char(23) NOT NULL,
- field6 char(23) NOT NULL,
- field7 decimal NOT NULL,
- field8 float NOT NULL,
- field9 date,
- field10 integer NOT NULL,
- field11 integer NOT NULL,
- field12 integer NOT NULL

And the indexed columns are listed as follows.

- TABLEA - field1,field2,field3
- TABLEB - field2
- TABLEC - field3
- TABLEG - field1,field2,field3
- TABLEH - field1,field2,field3
- TABLEJ - field1,field2,field3

A.1.3 SPEC Statistics on Database Tables and Indexes

```
=====================================================================================================
connect to gstonedb

   Database Connection Information

 Database product        = DB2/6000 2.1.0
 SQL authorization ID    = SPEC
 Local database alias    = GSTONEDB

=====================================================================================================
select name, fid, card, npages, fpages, overflow from sysibm.systables where creator = 'SPEC' order by name

NAME               FID    CARD        NPAGES      FPAGES      OVERFLOW
------------------ ------ ----------- ----------- ----------- -----------
TABLEA                  4       10000         304         304           0
TABLEB                  5       20000         607         607           0
TABLEC                  6       30000         910         910           0
TABLED                  7          -1          -1          -1          -1
TABLEG                  8       40000        1213        1213           0
TABLEH                  9       50000        1517        1517           0
TABLEI                 10          -1          -1          -1          -1
TABLEJ                 11      100000        3033        3033           0
VIEWJ1                  0          -1          -1          -1          -1
VIEWJ2                  0          -1          -1          -1          -1

  11 record(s) selected.

=====================================================================================================
select sum(npages), sum(fpages) from sysibm.systables where creator = 'SPEC'

1           2
----------- -----------
       7579        7579

  1 record(s) selected.

=====================================================================================================
select name, tbname, uniquerule, nleaf, nlevels, firstkeycard, fullkeycard, clusterratio, clusterfactor, substr(colnames,1,30), colcount from sysibm.sysindexes
       where tbcreator = 'SPEC' order by tbname

NAME               TBNAME             UNIQUERULE NLEAF       NLEVELS FIRSTKEYCARD FULLKEYCARD CLUSTERRATIO CLUSTERFACTOR            10                             COLCOUNT
------------------ ------------------ ---------- ----------- ------- ------------ ----------- ------------ ------------------------ ------------------------------ --------
INDXA1             TABLEA             D                   34       2        10000       10000          100 -1.00000000000000E+000   +FIELD1                               1
INDXA2             TABLEA             D                   34       2        10000       10000            3 -1.00000000000000E+000   +FIELD2                               1
INDXA3             TABLEA             D                   16       2         1001        1001            4 -1.00000000000000E+000   +FIELD3                               1
INDXB2             TABLEB             D                   67       2        20000       20000            3 -1.00000000000000E+000   +FIELD2                               1
INDXC3             TABLEC             D                   47       2         3001        3001            3 -1.00000000000000E+000   +FIELD3                               1
INDXG1             TABLEG             D                  134       2        40000       40000          100 -1.00000000000000E+000   +FIELD1                               1
INDXG2             TABLEG             D                  134       2        40000       40000            3 -1.00000000000000E+000   +FIELD2                               1
INDXG3             TABLEG             D                   62       2         4001        4001            3 -1.00000000000000E+000   +FIELD3                               1
INDXH1             TABLEH             D                  168       2        50000       50000          100 -1.00000000000000E+000   +FIELD1                               1
INDXH2             TABLEH             D                  168       2        50000       50000            3 -1.00000000000000E+000   +FIELD2                               1
INDXH3             TABLEH             D                   77       2         5001        5001            3 -1.00000000000000E+000   +FIELD3                               1
INDXJ1             TABLEJ             D                  335       3       100000      100000          100 -1.00000000000000E+000   +FIELD1                               1
INDXJ2             TABLEJ             D                  335       3       100000      100000            3 -1.00000000000000E+000   +FIELD2                               1
INDXJ3             TABLEJ             D                  154       2        10001       10001            3 -1.00000000000000E+000   +FIELD3                               1

  14 record(s) selected.

=====================================================================================================
select sum(nleaf) from sysibm.sysindexes where creator = 'SPEC'

1
-----------
       1765

  1 record(s) selected.
```

Figure 2 (Part 1 of 3). Catalog Statistics for SPEC Database

==

select tbname, name, colno, coltype, nulls, length, scale, colcard, high2key, low2key, keyseq from sysibm.syscolumns where tbcreator = 'SPEC' order by tbname, colno

TBNAME	NAME	COLNO	COLTYPE	NULLS	LENGTH	SCALE	COLCARD	HIGH2KEY	LOW2KEY	KEYSEQ
TABLEA	FIELD1	0	INTEGER	N	4	0	10000	9998	1	-
TABLEA	FIELD2	1	INTEGER	N	4	0	10000	9999	2	-
TABLEA	FIELD3	2	INTEGER	N	4	0	1001	999	1	-
TABLEA	FIELD4	3	CHAR	N	23	0	7304	ZZMAAAAAAAAAAAAAAAAAA	AABAAAAAAAAAAAAAAAAAA	-
TABLEA	FIELD5	4	CHAR	N	23	0	10000	AAZAZAAAAAAAAAAAAAAAMIP	AAAAAAAAAAAAAAAAAAAABIP	-
TABLEA	FIELD6	5	CHAR	N	23	0	7735	AAAAOAAAAAUAAAAAAAAONH	AAAAAAAAAAAAAAAAAAAABNH	-
TABLEA	FIELD7	6	DECIMAL	N	5	0	10000	+09998.	+00001.	-
TABLEA	FIELD8	7	DOUBLE	N	8	0	10000	+9.99900000000000E+003	+2.00000000000000E+000	-
TABLEA	FIELD9	8	DATE	Y	4	0	108	1991-12-24	1991-01-04	-
TABLEA	FIELD10	9	INTEGER	N	4	0	10000	9998	1	-
TABLEA	FIELD11	10	INTEGER	N	4	0	10000	9999	2	-
TABLEA	FIELD12	11	INTEGER	N	4	0	1008	999	1	-
TABLEB	FIELD1	0	INTEGER	N	4	0	20000	19998	1	-
TABLEB	FIELD2	1	INTEGER	N	4	0	20000	19999	2	-
TABLEB	FIELD3	2	INTEGER	N	4	0	2080	1999	1	-
TABLEB	FIELD4	3	CHAR	N	23	0	17837	ZZYAAAAAAAAAAAAAAAAAA	AAABAAAAAAAAAAAAAAAAA	-
TABLEB	FIELD5	4	CHAR	N	23	0	20000	AAZAZAAAAAAAAAAAABABIP	AAAAAAAAAAAAAAAAAAAABIP	-
TABLEB	FIELD6	5	CHAR	N	23	0	15851	AAAAZAAAAAZAAAAAAAAYNH	AAAAAAAAAAAAAAAAAAAABNH	-
TABLEB	FIELD7	6	DECIMAL	N	5	0	20000	+19998.	+00001.	-
TABLEB	FIELD8	7	DOUBLE	N	8	0	20000	+1.99990000000000E+004	+2.00000000000000E+000	-
TABLEB	FIELD9	8	DATE	Y	4	0	108	1991-12-24	1991-01-04	-
TABLEB	FIELD10	9	INTEGER	N	4	0	20000	19998	1	-
TABLEB	FIELD11	10	INTEGER	N	4	0	20000	19999	2	-
TABLEB	FIELD12	11	INTEGER	N	4	0	2080	1999	1	-
TABLEC	FIELD1	0	INTEGER	N	4	0	30000	29998	1	-
TABLEC	FIELD2	1	INTEGER	N	4	0	30000	29999	2	-
TABLEC	FIELD3	2	INTEGER	N	4	0	3001	2999	1	-
TABLEC	FIELD4	3	CHAR	N	23	0	25304	ZZYAAAAAAAAAAAAAAAAAA	AAABAAAAAAAAAAAAAAAAA	-
TABLEC	FIELD5	4	CHAR	N	23	0	30000	AAZAZAAAAAAAAAAAABAQIP	AAAAAAAAAAAAAAAAAAAABIP	-
TABLEC	FIELD6	5	CHAR	N	23	0	24929	AAAAZAAAAAZAAAAAAAAYNH	AAAAAAAAAAAAAAAAAAAABNH	-
TABLEC	FIELD7	6	DECIMAL	N	5	0	30000	+29998.	+00001.	-
TABLEC	FIELD8	7	DOUBLE	N	8	0	30000	+2.99990000000000E+004	+2.00000000000000E+000	-
TABLEC	FIELD9	8	DATE	Y	4	0	108	1991-12-24	1991-01-04	-
TABLEC	FIELD10	9	INTEGER	N	4	0	30000	29998	1	-
TABLEC	FIELD11	10	INTEGER	N	4	0	30000	29999	2	-
TABLEC	FIELD12	11	INTEGER	N	4	0	3012	2999	1	-
TABLED	FIELD1	0	INTEGER	N	4	0	-1			-
TABLED	FIELD2	1	INTEGER	N	4	0	-1			-
TABLED	FIELD3	2	INTEGER	N	4	0	-1			-
TABLED	FIELD4	3	CHAR	N	23	0	-1			-
TABLED	FIELD5	4	CHAR	N	23	0	-1			-
TABLED	FIELD6	5	CHAR	N	23	0	-1			-
TABLED	FIELD7	6	DECIMAL	N	5	0	-1			-
TABLED	FIELD8	7	DOUBLE	N	8	0	-1			-
TABLED	FIELD9	8	DATE	Y	4	0	-1			-
TABLED	FIELD10	9	INTEGER	N	4	0	-1			-
TABLED	FIELD11	10	INTEGER	N	4	0	-1			-
TABLED	FIELD12	11	INTEGER	N	4	0	-1			-

Figure 2 (Part 2 of 3). Catalog Statistics for SPEC Database

TABLEG	FIELD1	0	INTEGER	N	4	0	40000	39998	1	-
TABLEG	FIELD2	1	INTEGER	N	4	0	40000	39999	2	-
TABLEG	FIELD3	2	INTEGER	N	4	0	4001	3999	1	-
TABLEG	FIELD4	3	CHAR	N	23	0	34163	ZZZAAAAAAAAAAAAAAAAAAAA	AAABAAAAAAAAAAAAAAAAAAA	-
TABLEG	FIELD5	4	CHAR	N	23	0	40000	AAZAZAAAAAAAAAAAAACAFIP	AAAAAAAAAAAAAAAAAAAABIP	-
TABLEG	FIELD6	5	CHAR	N	23	0	31626	AAAAZAAAAAZABAAAAAAAYNH	AAAAAAAAAAAAAAAAAAAABNH	-
TABLEG	FIELD7	6	DECIMAL	N	5	0	40000	+39998.	+00001.	-
TABLEG	FIELD8	7	DOUBLE	N	8	0	40000	+3.99990000000000E+004	+2.00000000000000E+000	-
TABLEG	FIELD9	8	DATE	Y	4	0	108	1991-12-24	1991-01-04	-
TABLEG	FIELD10	9	INTEGER	N	4	0	40000	39998	1	-
TABLEG	FIELD11	10	INTEGER	N	4	0	40000	39999	2	-
TABLEG	FIELD12	11	INTEGER	N	4	0	4161	3999	1	-
TABLEH	FIELD1	0	INTEGER	N	4	0	50000	49998	1	-
TABLEH	FIELD2	1	INTEGER	N	4	0	50000	49999	2	-
TABLEH	FIELD3	2	INTEGER	N	4	0	5001	4999	1	-
TABLEH	FIELD4	3	CHAR	N	23	0	35911	ZZZAAAAAAAAAAAAAAAAAAAA	AAABAAAAAAAAAAAAAAAAAAA	-
TABLEH	FIELD5	4	CHAR	N	23	0	50000	AAZAZAAAAAAAAAAAAACATIP	AAAAAAAAAAAAAAAAAAAABIP	-
TABLEH	FIELD6	5	CHAR	N	23	0	35911	AAAAZAAAAAZABAAAAAAAYNH	AAAAAAAAAAAAAAAAAAAABNH	-
TABLEH	FIELD7	6	DECIMAL	N	5	0	50000	+49998.	+00001.	-
TABLEH	FIELD8	7	DOUBLE	N	8	0	50000	+4.99990000000000E+004	+2.00000000000000E+000	-
TABLEH	FIELD9	8	DATE	Y	4	0	108	1991-12-24	1991-01-04	-
TABLEH	FIELD10	9	INTEGER	N	4	0	50000	49998	1	-
TABLEH	FIELD11	10	INTEGER	N	4	0	50000	49999	2	-
TABLEH	FIELD12	11	INTEGER	N	4	0	5192	4999	1	-
TABLEI	FIELD1	0	INTEGER	N	4	0	-1			-
TABLEI	FIELD2	1	INTEGER	N	4	0	-1			-
TABLEI	FIELD3	2	INTEGER	N	4	0	-1			-
TABLEI	FIELD4	3	CHAR	N	23	0	-1			-
TABLEI	FIELD5	4	CHAR	N	23	0	-1			-
TABLEI	FIELD6	5	CHAR	N	23	0	-1			-
TABLEI	FIELD7	6	DECIMAL	N	5	0	-1			-
TABLEI	FIELD8	7	DOUBLE	N	8	0	-1			-
TABLEI	FIELD9	8	DATE	Y	4	0	-1			-
TABLEI	FIELD10	9	INTEGER	N	4	0	-1			-
TABLEI	FIELD11	10	INTEGER	N	4	0	-1			-
TABLEI	FIELD12	11	INTEGER	N	4	0	-1			-
TABLEJ	FIELD1	0	INTEGER	N	4	0	100000	99998	1	-
TABLEJ	FIELD2	1	INTEGER	N	4	0	100000	99999	2	-
TABLEJ	FIELD3	2	INTEGER	N	4	0	10001	9999	1	-
TABLEJ	FIELD4	3	CHAR	N	23	0	99605	ZZZDAAAAAAAAAAAAAAAAAAA	AAABAAAAAAAAAAAAAAAAAAA	-
TABLEJ	FIELD5	4	CHAR	N	23	0	99605	AAZAZAAAAAAAAAAAAAFAPIP	AAAAAAAAAAAAAAAAAAAABIP	-
TABLEJ	FIELD6	5	CHAR	N	23	0	99605	AAAAZAAAAAZAEAAAAAAAYNH	AAAAAAAAAAAAAAAAAAAABNH	-
TABLEJ	FIELD7	6	DECIMAL	N	5	0	99605	+99998.	+00001.	-
TABLEJ	FIELD8	7	DOUBLE	N	8	0	99605	+9.99990000000000E+004	+2.00000000000000E+000	-
TABLEJ	FIELD9	8	DATE	Y	4	0	108	1991-12-24	1991-01-04	-
TABLEJ	FIELD10	9	INTEGER	N	4	0	99605	99998	1	-
TABLEJ	FIELD11	10	INTEGER	N	4	0	99605	99999	2	-
TABLEJ	FIELD12	11	INTEGER	N	4	0	10831	9999	1	-
VIEWJ1	FIELD1	0	INTEGER	N	4	0	-1			-
VIEWJ1	FIELD2	1	INTEGER	N	4	0	-1			-
VIEWJ1	FIELD3	2	INTEGER	N	4	0	-1			-
VIEWJ1	FIELD4	3	CHAR	N	23	0	-1			-
VIEWJ1	FIELD5	4	CHAR	N	23	0	-1			-
VIEWJ1	FIELD6	5	CHAR	N	23	0	-1			-
VIEWJ1	FIELD7	6	DECIMAL	N	5	0	-1			-
VIEWJ1	FIELD8	7	DOUBLE	N	8	0	-1			-
VIEWJ1	FIELD9	8	DATE	Y	4	0	-1			-
VIEWJ1	FIELD10	9	INTEGER	N	4	0	-1			-
VIEWJ1	FIELD11	10	INTEGER	N	4	0	-1			-
VIEWJ1	FIELD12	11	INTEGER	N	4	0	-1			-
VIEWJ2	FIELD1	0	INTEGER	N	4	0	-1			-
VIEWJ2	FIELD2	1	INTEGER	N	4	0	-1			-
VIEWJ2	FIELD3	2	INTEGER	N	4	0	-1			-
VIEWJ2	FIELD4	3	CHAR	N	23	0	-1			-
VIEWJ2	FIELD5	4	CHAR	N	23	0	-1			-
VIEWJ2	FIELD6	5	CHAR	N	23	0	-1			-
VIEWJ2	FIELD7	6	DECIMAL	N	5	0	-1			-
VIEWJ2	FIELD8	7	DOUBLE	N	8	0	-1			-
VIEWJ2	FIELD9	8	DATE	Y	4	0	-1			-
VIEWJ2	FIELD10	9	INTEGER	N	4	0	-1			-
VIEWJ2	FIELD11	10	INTEGER	N	4	0	-1			-
VIEWJ2	FIELD12	11	INTEGER	N	4	0	-1			-

132 record(s) selected.

```
==============================================================================================
terminate
DB20000I  The TERMINATE command completed successfully.
==============================================================================================
```

Figure 2 (Part 3 of 3). Catalog Statistics for SPEC Database

A.1.4 SPEC DBM and Database Configurations on AIX

```
          Database Manager Configuration

     Node type = Database Server with local and remote clients

 Database manager configuration release level             = 0x0600

 CPU speed (millisec/instruction)             (CPUSPEED) = 4.000000e-05
 Max number of concurrently active databases      (NUMDB) = 8
 Transaction processor monitor name         (TP_MON_NAME) =

 Diagnostic error capture level               (DIAGLEVEL) = 3
 Diagnostic data directory path                (DIAGPATH) =

 Default database monitor switches
   Buffer pool                         (DFT_MON_BUFPOOL) = OFF
   Lock                                   (DFT_MON_LOCK) = OFF
   Sort                                   (DFT_MON_SORT) = OFF
   Statement                              (DFT_MON_STMT) = OFF
   Table                                 (DFT_MON_TABLE) = OFF
   Unit of work                            (DFT_MON_UOW) = OFF

 Database monitor SQL statement size (bytes) (SQLSTMTSZ) = 256

 SYSADM group name                        (SYSADM_GROUP) =
 SYSCTRL group name                      (SYSCTRL_GROUP) =
 SYSMAINT group name                    (SYSMAINT_GROUP) =

 Database manager authentication        (AUTHENTICATION) = CLIENT

 Default database path                       (DFTDBPATH) = /home/spec

 Database monitor heap size (4KB)          (MON_HEAP_SZ) = 48
 UDF shared memory set size (4KB)           (UDF_MEM_SZ) = 256

 Backup buffer default size (4KB)            (BACKBUFSZ) = 1024
 Restore buffer default size (4KB)           (RESTBUFSZ) = 1024

 Sort heap threshold (4KB)                  (SHEAPTHRES) = 4096

 Directory cache support                     (DIR_CACHE) = YES

 Application support layer heap size (4KB)   (ASLHEAPSZ) = 15
 Max requester I/O block size (bytes)         (RQRIOBLK) = 32767
 Query heap size (4KB)                   (QUERY_HEAP_SZ) = 1000
 DRDA services heap size (4KB)            (DRDA_HEAP_SZ) = 128

 Priority of agents                           (AGENTPRI) = SYSTEM
 Max number of existing agents               (MAXAGENTS) = 200
 Max number of concurrent agents            (MAXCAGENTS) = MAXAGENTS
 Maximum number of idle agents         (MAX_IDLEAGENTS) = 3

 Keep DARI process                            (KEEPDARI) = YES
 Max number of DARI processes                  (MAXDARI) = MAXAGENTS

 Index re-creation time                       (INDEXREC) = RESTART

 Transaction manager database name         (TM_DATABASE) =
 Transaction resync interval (sec)     (RESYNC_INTERVAL) = 180

 Service name                                 (SVCENAME) = testdb
 Transaction program name                       (TPNAME) =
 Default accounting string             (DFT_ACCOUNT_STR) =

 IPX/SPX fileserver name                    (FILESERVER) =
 IPX/SPX DB manager object name             (OBJECTNAME) =
 IPX/SPX socket number                      (IPX_SOCKET) = 879E

 Directory services type                      (DIR_TYPE) = NONE
 Directory path name                     (DIR_PATH_NAME) = /.:/subsys/database/
 Directory object name                    (DIR_OBJ_NAME) =
 Routing information object name        (ROUTE_OBJ_NAME) =
 Default client comm. protocols        (DFT_CLIENT_COMM) =
```

Figure 3. DBM Parameters for AIX SPEC Measurements (24MB Buffer Pool)

```
      Database Configuration for Database gstonedb

 Database configuration release level                    = 0x0600
 Database release level                                  = 0x0600

 Database territory                                      = En_US
 Database code page                                      = 850
 Database code set                                       = IBM-850
 Database country code                                   = 1

 Directory object name                     (DIR_OBJ_NAME) =

 Backup pending                                          = NO
 Database is consistent                                  = YES
 Rollforward pending                                     = NO

 Log retain for recovery status                          = NO
 User exit for logging status                            = NO

 Number of frequent values retained       (NUM_FREQVALUES) = 10
 Number of quantiles retained              (NUM_QUANTILES) = 20

 Database heap (4KB)                              (DBHEAP) = 2048
 Catalog cache size (4KB)               (CATALOGCACHE_SZ) = 64
 Log buffer size (4KB)                         (LOGBUFSZ) = 8
 Utilities heap size (4KB)                 (UTIL_HEAP_SZ) = 5000
 Buffer pool size (4KB)                        (BUFFPAGE) = 6000
 Max storage for lock lists (4KB)              (LOCKLIST) = 200

 Sort list heap (4KB)                          (SORTHEAP) = 2048
 SQL statement heap (4KB)                      (STMTHEAP) = 2048
 Default application heap (4KB)             (APPLHEAPSZ) = 320
 Package cache size (4KB)                   (PCKCACHESZ) = 36
 Statistics heap size (4KB)               (STAT_HEAP_SZ) = 4384

 Interval for checking deadlock (ms)          (DLCHKTIME) = 10000
 Percent. of lock lists per application        (MAXLOCKS) = 90
 Lock timeout (sec)                         (LOCKTIMEOUT) = -1

 Changed pages threshold                 (CHNGPGS_THRESH) = 60
 Number of asynchronous page cleaners    (NUM_IOCLEANERS) = 1
 Number of I/O servers                    (NUM_IOSERVERS) = 3
 Index sort flag                              (INDEXSORT) = YES
 Sequential detect flag                       (SEQDETECT) = YES
 Default prefetch size (4KB)            (DFT_PREFETCH_SZ) = 32

 Default number of containers                             = 1
 Default tablespace extentsize (4KB)      (DFT_EXTENT_SZ) = 32

 Max number of active applications             (MAXAPPLS) = 40
 Average number of active applications        (AVG_APPLS) = 1
 Max DB files open per application             (MAXFILOP) = 64

 Log file size (4KB)                          (LOGFILSIZ) = 512
 Number of primary log files                (LOGPRIMARY) = 6
 Number of secondary log files               (LOGSECOND) = 0
 Changed path to log files                  (NEWLOGPATH) =
 Path to log files                                        = /dbm.spec.db/spec/SQL00001/SQLOGDIR/
 Next active log file                                     =
 First active log file                                    =

 Group commit count                           (MINCOMMIT) = 1
 Percent log file reclaimed before soft chckpt (SOFTMAX) = 100
 Log retain for recovery enabled              (LOGRETAIN) = OFF
 User exit for logging enabled                 (USEREXIT) = OFF

 Auto restart enabled                       (AUTORESTART) = ON
 Index re-creation time                        (INDEXREC) = SYSTEM (RESTART)
 Default number of loadrec sessions     (DFT_LOADREC_SES) = 1
 Recovery history retention (days)      (REC_HIS_RETENTN) = 366
```

Figure 4. Database Parameters for AIX SPEC Measurements (24MB Buffer Pool)

A.1.5 SPEC DBM and Database Configurations on OS/2

```
          Database Manager Configuration

     Node type = Database Server with local and remote clients

 Database manager configuration release level              = 0x0600

 Maximum total of files open                   (MAXTOTFILOP) = 16000
 CPU speed (millisec/instruction)                 (CPUSPEED) = 5.036111e-05
 Max number of concurrently active databases        (NUMDB) = 8
 Transaction processor monitor name          (TP_MON_NAME) =

 Diagnostic error capture level                  (DIAGLEVEL) = 3
 Diagnostic data directory path                   (DIAGPATH) =

 Default database monitor switches
   Buffer pool                             (DFT_MON_BUFPOOL) = OFF
   Lock                                       (DFT_MON_LOCK) = OFF
   Sort                                       (DFT_MON_SORT) = OFF
   Statement                                  (DFT_MON_STMT) = OFF
   Table                                     (DFT_MON_TABLE) = OFF
   Unit of work                                (DFT_MON_UOW) = OFF

 Database monitor SQL statement size (bytes) (SQLSTMTSZ) = 256

 SYSADM group name                            (SYSADM_GROUP) =
 SYSCTRL group name                          (SYSCTRL_GROUP) =
 SYSMAINT group name                        (SYSMAINT_GROUP) =

 Database manager authentication          (AUTHENTICATION) = SERVER

 Default database path                           (DFTDBPATH) = E:

 Database monitor heap size (4KB)             (MON_HEAP_SZ) = 24
 UDF shared memory set size (4KB)               (UDF_MEM_SZ) = 256

 Backup buffer default size (4KB)               (BACKBUFSZ) = 1024
 Restore buffer default size (4KB)              (RESTBUFSZ) = 1024

 Agent stack size                           (AGENT_STACK_SZ) = 36
 Minimum committed private memory (4KB)     (MIN_PRIV_MEM) = 32
 Private memory threshold (4KB)           (PRIV_MEM_THRESH) = 1296

 Sort heap threshold (4KB)                      (SHEAPTHRES) = 2048

 Directory cache support                         (DIR_CACHE) = YES

 Application support layer heap size (4KB)    (ASLHEAPSZ) = 15
 Max requester I/O block size (bytes)            (RQRIOBLK) = 32767
 DOS requester I/O block size (bytes)       (DOS_RQRIOBLK) = 4096
 Query heap size (4KB)                      (QUERY_HEAP_SZ) = 1000
 DRDA services heap size (4KB)               (DRDA_HEAP_SZ) = 128

 Priority of agents                              (AGENTPRI) = SYSTEM
 Max number of existing agents                  (MAXAGENTS) = 200
 Max number of concurrent agents               (MAXCAGENTS) = MAXAGENTS
 Maximum number of idle agents            (MAX_IDLEAGENTS) = 3

 Keep DARI process                               (KEEPDARI) = YES
 Max number of DARI processes                     (MAXDARI) = MAXAGENTS

 Index re-creation time                          (INDEXREC) = ACCESS

 Transaction manager database name             (TM_DATABASE) =
 Transaction resync interval (sec)         (RESYNC_INTERVAL) = 180

 Workstation name                                    (NNAME) =

 Service name                                     (SVCENAME) =
 Transaction program name                           (TPNAME) =
 Default accounting string                 (DFT_ACCOUNT_STR) =

 IPX/SPX fileserver name                        (FILESERVER) =
 IPX/SPX DB manager object name                 (OBJECTNAME) =
 IPX/SPX socket number                          (IPX_SOCKET) = 879E

 Directory services type                          (DIR_TYPE) = NONE
 Directory path name                         (DIR_PATH_NAME) = /.:/subsys/database/
 Directory object name                        (DIR_OBJ_NAME) =
```

Figure 5. DBM Parameters for OS/2 SPEC Measurements (24MB Buffer Pool)

```
     Database Configuration for Database gstonedb

 Database configuration release level                    = 0x0600
 Database release level                                  = 0x0600

 Database territory                                      = US
 Database code page                                      = 437
 Database code set                                       = IBM-437
 Database country code                                   = 1

 Copy protect enabled                      (COPYPROTECT) = NO
 Directory object name                    (DIR_OBJ_NAME) =

 Backup pending                                          = NO
 Database is consistent                                  = YES
 Rollforward pending                                     = NO

 Log retain for recovery status                          = NO
 User exit for logging status                            = NO

 Number of frequent values retained     (NUM_FREQVALUES) = 10
 Number of quantiles retained            (NUM_QUANTILES) = 20

 Database heap (4KB)                            (DBHEAP) = 600
 Catalog cache size (4KB)              (CATALOGCACHE_SZ) = 32
 Log buffer size (4KB)                        (LOGBUFSZ) = 8
 Utilities heap size (4KB)                (UTIL_HEAP_SZ) = 5000
 Buffer pool size (4KB)                       (BUFFPAGE) = 5000
 Max storage for lock lists (4KB)             (LOCKLIST) = 50

 Sort list heap (4KB)                         (SORTHEAP) = 256
 SQL statement heap (4KB)                     (STMTHEAP) = 2048
 Default application heap (4KB)             (APPLHEAPSZ) = 128
 Package cache size (4KB)                   (PCKCACHESZ) = 36
 Statistics heap size (4KB)               (STAT_HEAP_SZ) = 4384

 Interval for checking deadlock (ms)         (DLCHKTIME) = 10000
 Percent. of lock lists per application       (MAXLOCKS) = 22
 Lock timeout (sec)                        (LOCKTIMEOUT) = -1

 Changed pages threshold                (CHNGPGS_THRESH) = 60
 Number of asynchronous page cleaners   (NUM_IOCLEANERS) = 1
 Number of I/O servers                   (NUM_IOSERVERS) = 3
 Index sort flag                             (INDEXSORT) = YES
 Sequential detect flag                      (SEQDETECT) = YES
 Default prefetch size (4KB)           (DFT_PREFETCH_SZ) = 16

 Default number of containers                            = 1
 Default tablespace extentsize (4KB)     (DFT_EXTENT_SZ) = 32

 Max number of active applications            (MAXAPPLS) = 20
 Average number of active applications       (AVG_APPLS) = 1
 Max DB files open per application            (MAXFILOP) = 64

 Log file size (4KB)                         (LOGFILSIZ) = 250
 Number of primary log files                (LOGPRIMARY) = 3
 Number of secondary log files               (LOGSECOND) = 2
 Changed path to log files                  (NEWLOGPATH) =
 Path to log files                                       = K:\LOG\
 Next active log file                                    =
 First active log file                                   =

 Group commit count                          (MINCOMMIT) = 1
 Percent log file reclaimed before soft chckpt (SOFTMAX) = 100
 Log retain for recovery enabled             (LOGRETAIN) = OFF
 User exit for logging enabled                (USEREXIT) = OFF

 Auto restart enabled                      (AUTORESTART) = ON
 Index re-creation time                       (INDEXREC) = SYSTEM (ACCESS)
 Default number of loadrec sessions    (DFT_LOADREC_SES) = 1
 Recovery history retention (days)     (REC_HIS_RETENTN) = 366
```

Figure 6. Database Parameters for OS/2 SPEC Measurements (24MB Buffer Pool)

A.1.6 SPEC Explain Output

In the following, Section N corresponds to SPEC query N. The access plans for SPEC were identical on both OS/2 and AIX.

```
DB2 for AIX/6000 Version 2.1.0, 5622-044 (c) Copyright IBM Corp. 1991, 1995
Licensed Material - Program Property of IBM
IBM DATABASE 2 SQL Explain Tool

Processing package SPEC.BENCH.
******************** PACKAGE ***************************************

Package Name = SPEC.BENCH
 Prep Date = 1995/08/15
 Prep Time = 23:54:29:023

 Bind Timestamp = 1995-08-15-23.54.37.120388

 Isolation Level          = Repeatable Read
 Blocking                 = Block Unambiguous Cursors
 Query Optimization Class = 5

Processing Section 1.
-------------------- SECTION ---------------------------------------
Section = 1


SQL Statement:

  SELECT field1, field2, field3, field4, field5, field6 INTO :field1 ,
         :field2 , :field3 , :field4 , :field5 , :field6
  FROM TABLEJ
  WHERE field10 = 99999


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 7
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
End of Section


Processing Section 2.
-------------------- SECTION ---------------------------------------
Section = 2


SQL Statement:

  SELECT field1, field2, field3, field4, field5, field6 INTO :field1 ,
         :field2 , :field3 , :field4 , :field5 , :field6
  FROM TABLEJ
  WHERE field1 = 99999


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 6
|  Index Scan:  Name = SPEC.INDXJ1  ID = 1
|  |  #Key Columns = 1
|  Lock Intents
|  |  Table: Intent Share
|  |  Row   : Share
End of Section


Processing Section 3.
```

Figure 7 (Part 1 of 21). SPEC Explain Output

```
------------------- SECTION --------------------------------------
Section = 3


SQL Statement:

  SELECT *
  FROM TABLEJ
  WHERE field12 = 770 OR field12 = 990
  ORDER BY field12, field11


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
|  Create/Insert Into Sorted Temp Table  ID = t1
|  |  #Columns = 12
|  |  #Sort Key Columns = 2
|  |  Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
End of Section


Processing Section 4.
------------------- SECTION --------------------------------------
Section = 4


SQL Statement:

  SELECT *
  FROM TABLEJ
  WHERE field3 = 770 OR field3 = 990
  ORDER BY field3, field2


Table Constructor
|  2-Row(s)
Nested Loop Join
|  Access Table Name = SPEC.TABLEJ  ID = 9
|  |  #Columns = 12
|  |  Index Scan:  Name = SPEC.INDXJ3  ID = 3
|  |  |  #Key Columns = 1
|  |  Lock Intents
|  |  |  Table: Intent Share
|  |  |  Row   : Share
|  |  Create/Insert Into Sorted Temp Table  ID = t1
|  |  |  #Columns = 12
|  |  |  #Sort Key Columns = 2
|  |  |  Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
End of Section


Processing Section 5.
------------------- SECTION --------------------------------------
Section = 5


SQL Statement:

  SELECT *
  FROM TABLEJ
  WHERE (field12 = 770 OR field12 = 990) AND field11 <= 50000


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 2
End of Section


Processing Section 6.
```

Figure 7 (Part 2 of 21). SPEC Explain Output

```
------------------- SECTION --------------------------------------
Section = 6


SQL Statement:

  SELECT *
  FROM TABLEJ
  WHERE (field3 = 770 OR field3 = 990) AND field2 <= 50000


Data Stream 1: Evaluate at Open
|  Not Piped
|  Table Constructor
|  |  2-Row(s)
|  Nested Loop Join
|  |  Access Table Name = SPEC.TABLEJ  ID = 9
|  |  |  #Columns = 12
|  |  |  Index Scan:  Name = SPEC.INDXJ3  ID = 3
|  |  |  |  #Key Columns = 1
|  |  |  Lock Intents
|  |  |  |  Table: Intent Share
|  |  |  |  Row   : Share
|  |  |  Sargable Predicate(s)
|  |  |  |  #Predicates = 1
|  |  |  Create/Insert Into Temp Table  ID = t1
|  |  |  |  #Columns = 14
|  Temp Table Completion  ID = t1
End of Data Stream 1
Access Temp Table  ID = t1
|  #Columns = 14
|  Relation Scan
|  |  Prefetch Eligible
End of Section


Processing Section 7.
------------------- SECTION --------------------------------------
Section = 7


SQL Statement:

  SELECT *
  FROM TABLEB, TABLEC
  WHERE TABLEB.field11 = TABLEC.field12


Access Table Name = SPEC.TABLEB  ID = 3
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Create/Insert Into Sorted Temp Table  ID = t1
|  |  #Columns = 12
|  |  #Sort Key Columns = 1
|  |  Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
Merge Join
|  Data Stream 1: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEC  ID = 4
|  |  |  #Columns = 12
|  |  |  Relation Scan
|  |  |  |  Prefetch Eligible
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row   : None
|  |  |  Create/Insert Into Sorted Temp Table  ID = t2
|  |  |  |  #Columns = 12
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Not Piped
|  |  Sorted Temp Table Completion  ID = t2
|  End of Data Stream 1
|  Access Temp Table  ID = t2
|  |  #Columns = 12
|  |  Relation Scan
|  |  |  Prefetch Eligible
End of Section
```

Figure 7 (Part 3 of 21). SPEC Explain Output

```
Processing Section 8.
------------------- SECTION --------------------------------------
Section = 8


SQL Statement:

  SELECT *
  FROM TABLEB, TABLEC
  WHERE TABLEB.field2 = TABLEC.field3


Access Table Name = SPEC.TABLEB  ID = 3
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row  : None
|  Create/Insert Into Sorted Temp Table  ID = t1
|  |  #Columns = 12
|  |  #Sort Key Columns = 1
|  |  Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
Merge Join
|  Data Stream 1: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEC  ID = 4
|  |  |  #Columns = 12
|  |  |  Relation Scan
|  |  |  |  Prefetch Eligible
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row  : None
|  |  |  Create/Insert Into Sorted Temp Table  ID = t2
|  |  |  |  #Columns = 12
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Not Piped
|  |  Sorted Temp Table Completion  ID = t2
|  End of Data Stream 1
|  Access Temp Table  ID = t2
|  |  #Columns = 12
|  |  Relation Scan
|  |  |  Prefetch Eligible
End of Section


Processing Section 9.
------------------- SECTION --------------------------------------
Section = 9


SQL Statement:

  SELECT *
  FROM viewj1


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row  : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
End of Section
```

Figure 7 (Part 4 of 21). SPEC Explain Output

```
Processing Section 10.
------------------- SECTION --------------------------------------
Section = 10


SQL Statement:

  SELECT *
  FROM viewj2


Data Stream 1: Evaluate at Open
|  Not Piped
|  Table Constructor
|  |  2-Row(s)
|  Nested Loop Join
|  |  Access Table Name = SPEC.TABLEJ  ID = 9
|  |  |  #Columns = 12
|  |  |  Index Scan:  Name = SPEC.INDXJ3  ID = 3
|  |  |  |  #Key Columns = 1
|  |  |  Lock Intents
|  |  |  |  Table: Intent Share
|  |  |  |  Row  : Share
|  |  |  Create/Insert Into Temp Table  ID = t1
|  |  |  |  #Columns = 14
|  Temp Table Completion  ID = t1
End of Data Stream 1
Access Temp Table  ID = t1
|  #Columns = 14
|  Relation Scan
|  |  Prefetch Eligible
End of Section


Processing Section 11.
------------------- SECTION --------------------------------------
Section = 11


SQL Statement:

  SELECT COUNT(*) INTO :numrows
  FROM TABLEJ
  WHERE field12 = 770 or field12 = 990


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 1
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row  : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
|  Predicate Aggregation
|  |  Column Function(s)
Aggregation Completion
|  Column Function(s)
End of Section
```

Figure 7 (Part 5 of 21). SPEC Explain Output

```
Processing Section 12.
------------------- SECTION --------------------------------------
Section = 12


SQL Statement:

  SELECT COUNT(*) INTO :numrows
  FROM TABLEJ
  WHERE field3 = 770 or field3 = 990


Table Constructor
| 2-Row(s)
Nested Loop Join
| Access Table Name = SPEC.TABLEJ  ID = 9
| | #Columns = 1
| | Index Scan:  Name = SPEC.INDXJ3  ID = 3
| | | #Key Columns = 1
| | | Index-only Access
| | | | Predicate Aggregation
| | | | | Column Function(s)
| | Lock Intents
| | | Table: Intent Share
| | | Row  : Share
Aggregation Completion
| Column Function(s)
End of Section


Processing Section 13.
------------------- SECTION --------------------------------------
Section = 13


SQL Statement:

  Select distinct *
  from tablea
  where field3 >= 0 and field3 <= 9


Access Table Name = SPEC.TABLEA  ID = 2
| #Columns = 1
| Index Scan:  Name = SPEC.INDXA3  ID = 3
| | #Key Columns = 1
| | Index-only Access
| | | Create/Insert Into Sorted Temp Table  ID = t1
| | | | #Columns = 1
| | | | #Sort Key Columns = 1
| | | | Piped
| Lock Intents
| | Table: Intent Share
| | Row  : Share
Sorted Temp Table Completion  ID = t1
List Prefetch RID Preparation
Access Table Name = SPEC.TABLEA  ID = 2
| #Columns = 12
| Fetch Direct
| Isolation Level: Uncommitted Read
| Lock Intents
| | Table: Intent None
| | Row  : None
| Residual Predicate(s)
| | #Predicates = 2
Create/Insert Into Sorted Temp Table  ID = t2
| #Columns = 12
| #Sort Key Columns = 12
| Piped
| Duplicate Elimination
Access Temp Table  ID = t2
| #Columns = 12
| Relation Scan
| | Prefetch Eligible
End of Section
```

Figure 7 (Part 6 of 21). SPEC Explain Output

```
Processing Section 14.
------------------- SECTION --------------------------------------
Section = 14


SQL Statement:

  Select *
  from tablea
  where field2 in(10, 20, 30, 40, 50)


Data Stream 1: Evaluate at Open
| Not Piped
| Table Constructor
| | 5-Row(s)
| Nested Loop Join
| | Access Table Name = SPEC.TABLEA  ID = 2
| | | #Columns = 12
| | | Index Scan:  Name = SPEC.INDXA2  ID = 2
| | | | #Key Columns = 1
| | | Lock Intents
| | | | Table: Intent Share
| | | | Row  : Share
| | | Create/Insert Into Temp Table  ID = t1
| | | | #Columns = 14
| Temp Table Completion  ID = t1
End of Data Stream 1
Access Temp Table  ID = t1
| #Columns = 14
| Relation Scan
| | Prefetch Eligible
End of Section


Processing Section 15.
------------------- SECTION --------------------------------------
Section = 15


SQL Statement:

  Select distinct sum(field2), field1, field2, field3, field4, field5,
         field6
  from tablea
  where field1 in (
     select field3
     from tablec
     where field3>=0 and field3<=9 )
  group by field1, field2, field3, field4, field5, field6
  order by tablea.field4


Access Table Name = SPEC.TABLEA  ID = 2
| #Columns = 6
| Index Scan:  Name = SPEC.INDXA1  ID = 1
| | #Key Columns = 1
| Lock Intents
| | Table: Intent Share
| | Row  : Share
| Create/Insert Into Sorted Temp Table  ID = t1
| | #Columns = 7
| | #Sort Key Columns = 6
| | Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
| #Columns = 7
| Relation Scan
| | Prefetch Eligible
Nested Loop Join
| Access Table Name = SPEC.TABLEC  ID = 4
| | #Columns = 1
| | Single Record
| | Index Scan:  Name = SPEC.INDXC3  ID = 1
| | | #Key Columns = 1
| | | Index-only Access
| | | Sargable Index Predicate(s)
| | | | #Predicates = 2
| | Lock Intents
| | | Table: Intent Share
| | | Row  : Share
Aggregation
| Group By
| Column Function(s)
End of Section
```

Figure 7 (Part 7 of 21). SPEC Explain Output

```
Processing Section 16.
------------------- SECTION -------------------------------------
Section = 16


SQL Statement:

  Select distinct sum(field2), field1, field2, field3, field4, field5,
         field6
  from tablea
  where field1 in (
     select tableg.field3
     from tablea, tableg
     where tablea.field3=tableg.field3 )
  group by field1, field2, field3, field4, field5, field6
  order by tablea.field4


Access Table Name = SPEC.TABLEA  ID = 2
|  #Columns = 6
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Create/Insert Into Sorted Temp Table  ID = t1
|  |  #Columns = 7
|  |  #Sort Key Columns = 1
|  |  Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
|  #Columns = 7
|  Relation Scan
|  |  Prefetch Eligible
Nested Loop Join
|  Access Table Name = SPEC.TABLEG  ID = 6
|  |  #Columns = 1
|  |  Single Record
|  |  Index Scan:  Name = SPEC.INDXG3  ID = 3
|  |  |  #Key Columns = 1
|  |  |  Index-only Access
|  |  Lock Intents
|  |  |  Table: Intent Share
|  |  |  Row   : Share
Merge Join
|  Data Stream 1: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEA  ID = 2
|  |  |  #Columns = 1
|  |  |  Index Scan:  Name = SPEC.INDXA3  ID = 3
|  |  |  |  #Key Columns = 0
|  |  |  |  Index-only Access
|  |  |  |  |  Create/Insert Into Temp Table  ID = t2
|  |  |  |  |  |  #Columns = 1
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row   : None
|  |  Temp Table Completion  ID = t2
|  End of Data Stream 1
|  Access Temp Table  ID = t2
|  |  #Columns = 1
|  |  Single Record
|  |  Relation Scan
|  |  |  Prefetch Eligible
|  |  Residual Predicate(s)
|  |  |  #Predicates = 1
Create/Insert Into Sorted Temp Table  ID = t3
|  #Columns = 6
|  #Sort Key Columns = 6
|  Piped
Access Temp Table  ID = t3
|  #Columns = 6
|  Relation Scan
|  |  Prefetch Eligible
Aggregation
|  Group By
|  Column Function(s)
End of Section
```

Figure 7 (Part 8 of 21). SPEC Explain Output

```
Processing Section 17.
------------------- SECTION -------------------------------------
Section = 17


SQL Statement:

  Select distinct sum(field2), field1, field2, field3, field4, field5,
         field6
  from tablea
  where field2 in (
     select tableg.field3
     from tablea, tableg
     where tablea.field3=tableg.field3 )
  group by field1, field2, field3, field4, field5, field6
  order by tablea.field4


Access Table Name = SPEC.TABLEA  ID = 2
|  #Columns = 6
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Create/Insert Into Sorted Temp Table  ID = t1
|  |  #Columns = 7
|  |  #Sort Key Columns = 1
|  |  Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
|  #Columns = 7
|  Relation Scan
|  |  Prefetch Eligible
Nested Loop Join
|  Access Table Name = SPEC.TABLEG  ID = 6
|  |  #Columns = 1
|  |  Single Record
|  |  Index Scan:  Name = SPEC.INDXG3  ID = 3
|  |  |  #Key Columns = 1
|  |  |  Index-only Access
|  |  Lock Intents
|  |  |  Table: Intent Share
|  |  |  Row   : Share
Merge Join
|  Data Stream 1: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEA  ID = 2
|  |  |  #Columns = 1
|  |  |  Index Scan:  Name = SPEC.INDXA3  ID = 3
|  |  |  |  #Key Columns = 0
|  |  |  |  Index-only Access
|  |  |  |  |  Create/Insert Into Temp Table  ID = t2
|  |  |  |  |  |  #Columns = 1
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row   : None
|  |  Temp Table Completion  ID = t2
|  End of Data Stream 1
|  Access Temp Table  ID = t2
|  |  #Columns = 1
|  |  Single Record
|  |  Relation Scan
|  |  |  Prefetch Eligible
|  |  Residual Predicate(s)
|  |  |  #Predicates = 1
Create/Insert Into Sorted Temp Table  ID = t3
|  #Columns = 6
|  #Sort Key Columns = 6
|  Piped
Access Temp Table  ID = t3
|  #Columns = 6
|  Relation Scan
|  |  Prefetch Eligible
Aggregation
|  Group By
|  Column Function(s)
End of Section
```

Figure 7 (Part 9 of 21). SPEC Explain Output

```
Processing Section 18.
------------------- SECTION -------------------------------------
Section = 18


SQL Statement:

  Select distinct tablea.field1, tableb.field4, tablec.field5,
          tablea.field6
  from tablea, tableb, tablec
  where tablea.field1 = tableb.field2 and tablea.field1 =
          tablec.field2
  order by tablea.field1


Access Table Name = SPEC.TABLEC  ID = 4
| #Columns = 2
| Relation Scan
| | Prefetch Eligible
| Lock Intents
| | Table: Share
| | Row  : None
| Create/Insert Into Sorted Temp Table  ID = t1
| | #Columns = 2
| | #Sort Key Columns = 1
| | Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
| #Columns = 2
| Relation Scan
| | Prefetch Eligible
Merge Join
| Data Stream 1: Evaluate at Open
| | Not Piped
| | Access Table Name = SPEC.TABLEB  ID = 3
| | | #Columns = 2
| | | Relation Scan
| | | | Prefetch Eligible
| | | Lock Intents
| | | | Table: Share
| | | | Row  : None
| | | Create/Insert Into Sorted Temp Table  ID = t2
| | | | #Columns = 2
| | | | #Sort Key Columns = 1
| | | | Piped
| | Sorted Temp Table Completion  ID = t2
| | Access Temp Table  ID = t2
| | | #Columns = 2
| | | Relation Scan
| | | | Prefetch Eligible
| | Merge Join
| | | Data Stream 2: Evaluate at Open
| | | | Not Piped
| | | | Access Table Name = SPEC.TABLEA  ID = 2
| | | | | #Columns = 2
| | | | | Relation Scan
| | | | | | Prefetch Eligible
| | | | | Lock Intents
| | | | | | Table: Share
| | | | | | Row  : None
| | | | | Create/Insert Into Sorted Temp Table  ID = t3
| | | | | | #Columns = 2
| | | | | | #Sort Key Columns = 1
| | | | | | Not Piped
| | | | Sorted Temp Table Completion  ID = t3
| | | End of Data Stream 2
| | | Access Temp Table  ID = t3
| | | | #Columns = 2
| | | | Relation Scan
| | | | | Prefetch Eligible
| | Create/Insert Into Temp Table  ID = t4
| | | #Columns = 4
| End of Data Stream 1
```

Figure 7 (Part 10 of 21). SPEC Explain Output

```
| Access Temp Table  ID = t4
| | #Columns = 4
| | Relation Scan
| | | Prefetch Eligible
| | Residual Predicate(s)
| | | #Predicates = 1
Create/Insert Into Sorted Temp Table  ID = t5
| #Columns = 4
| #Sort Key Columns = 4
| Piped
| Duplicate Elimination
Access Temp Table  ID = t5
| #Columns = 4
| Relation Scan
| | Prefetch Eligible
End of Section


Processing Section 19.
------------------- SECTION -------------------------------------
Section = 19


SQL Statement:

  Select distinct field1, field2, field3, field4, field5, field6
  from tablea
  where field1 in (
     select tablea.field3
     from tablea, tableg, tableh
     where tablea.field3 = tableg.field3 and tablea.field3 =
             tableh.field3 )
  group by field1, field2, field3, field4, field5, field6
  order by tablea.field5


Access Table Name = SPEC.TABLEA  ID = 2
| #Columns = 6
| Relation Scan
| | Prefetch Eligible
| Lock Intents
| | Table: Share
| | Row  : None
| Create/Insert Into Sorted Temp Table  ID = t1
| | #Columns = 7
| | #Sort Key Columns = 1
| | Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
| #Columns = 7
| Relation Scan
| | Prefetch Eligible
Nested Loop Join
| Access Table Name = SPEC.TABLEG  ID = 6
| | #Columns = 1
| | Single Record
| | Index Scan:  Name = SPEC.INDXG3  ID = 3
| | | #Key Columns = 1
| | | Index-only Access
| | Lock Intents
| | | Table: Intent Share
| | | Row  : Share
Nested Loop Join
| Access Table Name = SPEC.TABLEH  ID = 7
| | #Columns = 1
| | Single Record
| | Index Scan:  Name = SPEC.INDXH3  ID = 3
| | | #Key Columns = 1
| | | Index-only Access
| | | Sargable Index Predicate(s)
| | | | #Predicates = 1
| | Lock Intents
| | | Table: Intent Share
| | | Row  : Share
Merge Join
```

Figure 7 (Part 11 of 21). SPEC Explain Output

```
|  Data Stream 1: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEA  ID = 2
|  |  |  #Columns = 1
|  |  |  Index Scan:  Name = SPEC.INDXA3  ID = 3
|  |  |  |  #Key Columns = 0
|  |  |  |  Index-only Access
|  |  |  |  |  Create/Insert Into Temp Table  ID = t2
|  |  |  |  |  |  #Columns = 1
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row  : None
|  |  Temp Table Completion  ID = t2
|  End of Data Stream 1
|  Access Temp Table  ID = t2
|  |  #Columns = 1
|  |  Single Record
|  |  Relation Scan
|  |  |  Prefetch Eligible
|  |  Residual Predicate(s)
|  |  |  #Predicates = 1
Create/Insert Into Sorted Temp Table  ID = t3
|  #Columns = 6
|  #Sort Key Columns = 6
|  Piped
Access Temp Table  ID = t3
|  #Columns = 6
|  Relation Scan
|  |  Prefetch Eligible
Aggregation
|  Group By
End of Section


Processing Section 20.
------------------- SECTION --------------------------------------
Section = 20


SQL Statement:

  Select distinct tableb.field5
  from tablea, tableb, tablec, tableg
  where tablea.field1 = tableb.field2 and tablea.field1 =
          tablec.field1 and tablea.field1 = tableg.field2


Access Table Name = SPEC.TABLEG  ID = 6
|  #Columns = 1
|  Index Scan:  Name = SPEC.INDXG2  ID = 2
|  |  #Key Columns = 0
|  |  Index-only Access
|  Lock Intents
|  |  Table: Share
|  |  Row  : None
Merge Join
|  Data Stream 1: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEB  ID = 3
|  |  |  #Columns = 2
|  |  |  Relation Scan
|  |  |  |  Prefetch Eligible
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row  : None
|  |  |  Create/Insert Into Sorted Temp Table  ID = t1
|  |  |  |  #Columns = 2
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Not Piped
|  |  Sorted Temp Table Completion  ID = t1
|  End of Data Stream 1
|  Access Temp Table  ID = t1
|  |  #Columns = 2
|  |  Relation Scan
|  |  |  Prefetch Eligible
Merge Join
```

Figure 7 (Part 12 of 21). SPEC Explain Output

```
|  Data Stream 2: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEC  ID = 4
|  |  |  #Columns = 1
|  |  |  Relation Scan
|  |  |  |  Prefetch Eligible
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row  : None
|  |  |  Create/Insert Into Sorted Temp Table  ID = t2
|  |  |  |  #Columns = 1
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Piped
|  |  Sorted Temp Table Completion  ID = t2
|  |  Access Temp Table  ID = t2
|  |  |  #Columns = 1
|  |  |  Relation Scan
|  |  |  |  Prefetch Eligible
|  |  Merge Join
|  |  |  Data Stream 3: Evaluate at Open
|  |  |  |  Not Piped
|  |  |  |  Access Table Name = SPEC.TABLEA  ID = 2
|  |  |  |  |  #Columns = 1
|  |  |  |  |  Index Scan:  Name = SPEC.INDXA1  ID = 1
|  |  |  |  |  |  #Key Columns = 0
|  |  |  |  |  |  Index-only Access
|  |  |  |  |  |  |  Create/Insert Into Temp Table  ID = t3
|  |  |  |  |  |  |  |  #Columns = 1
|  |  |  |  |  Lock Intents
|  |  |  |  |  |  Table: Share
|  |  |  |  |  |  Row  : None
|  |  |  |  Temp Table Completion  ID = t3
|  |  |  End of Data Stream 3
|  |  |  Access Temp Table  ID = t3
|  |  |  |  #Columns = 1
|  |  |  |  Relation Scan
|  |  |  |  |  Prefetch Eligible
|  |  Create/Insert Into Temp Table  ID = t4
|  |  |  #Columns = 2
|  End of Data Stream 2
|  Access Temp Table  ID = t4
|  |  #Columns = 2
|  |  Single Record
|  |  Relation Scan
|  |  |  Prefetch Eligible
|  |  Residual Predicate(s)
|  |  |  #Predicates = 1
Create/Insert Into Sorted Temp Table  ID = t5
|  #Columns = 1
|  #Sort Key Columns = 1
|  Piped
|  Duplicate Elimination
Access Temp Table  ID = t5
|  #Columns = 1
|  Relation Scan
|  |  Prefetch Eligible
End of Section


Processing Section 21.
------------------- SECTION --------------------------------------
Section = 21


SQL Statement:

  Select *
  from tablea
  where field5 in (
     select tablea.field5
     from tablea, tableb, tablec
     where tablea.field5 = tableb.field5 and tablea.field5 =
             tablec.field5 )
  order by tablea.field1
```

Figure 7 (Part 13 of 21). SPEC Explain Output

```
Access Table Name = SPEC.TABLEC  ID = 4
|  #Columns = 1
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Create/Insert Into Sorted Temp Table  ID = t1
|  |  #Columns = 1
|  |  #Sort Key Columns = 1
|  |  Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
|  #Columns = 1
|  Relation Scan
|  |  Prefetch Eligible
Merge Join
|  Data Stream 1: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEA  ID = 2
|  |  |  #Columns = 1
|  |  |  Relation Scan
|  |  |  |  Prefetch Eligible
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row   : None
|  |  |  Create/Insert Into Sorted Temp Table  ID = t2
|  |  |  |  #Columns = 1
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Not Piped
|  |  Sorted Temp Table Completion  ID = t2
|  End of Data Stream 1
|  Access Temp Table  ID = t2
|  |  #Columns = 1
|  |  Relation Scan
|  |  |  Prefetch Eligible
Merge Join
|  Data Stream 2: Evaluate at Open
|  |  Not Piped
|  |  Access Table Name = SPEC.TABLEB  ID = 3
|  |  |  #Columns = 1
|  |  |  Relation Scan
|  |  |  |  Prefetch Eligible
|  |  |  Lock Intents
|  |  |  |  Table: Share
|  |  |  |  Row   : None
|  |  |  Create/Insert Into Sorted Temp Table  ID = t3
|  |  |  |  #Columns = 1
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Piped
|  |  Sorted Temp Table Completion  ID = t3
|  |  Access Temp Table  ID = t3
|  |  |  #Columns = 1
|  |  |  Relation Scan
|  |  |  |  Prefetch Eligible
|  |  Merge Join
|  |  |  Data Stream 3: Evaluate at Open
|  |  |  |  Not Piped
|  |  |  |  Access Table Name = SPEC.TABLEA  ID = 2
|  |  |  |  |  #Columns = 12
|  |  |  |  |  Relation Scan
|  |  |  |  |  |  Prefetch Eligible
|  |  |  |  |  Lock Intents
|  |  |  |  |  |  Table: Share
|  |  |  |  |  |  Row   : None
|  |  |  |  |  Create/Insert Into Sorted Temp Table  ID = t4
|  |  |  |  |  |  #Columns = 13
|  |  |  |  |  |  #Sort Key Columns = 1
|  |  |  |  |  |  Not Piped
|  |  |  |  Sorted Temp Table Completion  ID = t4
|  |  |  End of Data Stream 3
|  |  |  Access Temp Table  ID = t4
|  |  |  |  #Columns = 13
|  |  |  |  Relation Scan
|  |  |  |  |  Prefetch Eligible
|  |  Create/Insert Into Temp Table  ID = t5
|  |  |  #Columns = 14
|  End of Data Stream 2
```

Figure 7 (Part 14 of 21). SPEC Explain Output

```
|  Access Temp Table  ID = t5
|  |  #Columns = 14
|  |  Relation Scan
|  |  |  Prefetch Eligible
|  |  Residual Predicate(s)
|  |  |  #Predicates = 1
Create/Insert Into Sorted Temp Table  ID = t6
|  #Columns = 13
|  #Sort Key Columns = 2
|  Piped
|  Duplicate Elimination
Access Temp Table  ID = t6
|  #Columns = 13
|  Relation Scan
|  |  Prefetch Eligible
End of Section


Processing Section 22.
------------------- SECTION --------------------------------------
Section = 22


SQL Statement:

  Select *
  from tablea
  order by field4


Access Table Name = SPEC.TABLEA  ID = 2
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Create/Insert Into Sorted Temp Table  ID = t1
|  |  #Columns = 12
|  |  #Sort Key Columns = 1
|  |  Piped
Sorted Temp Table Completion  ID = t1
Access Temp Table  ID = t1
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
End of Section


Processing Section 23.
------------------- SECTION --------------------------------------
Section = 23


SQL Statement:

  Select *
  from tablea


Access Table Name = SPEC.TABLEA  ID = 2
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
End of Section
```

Figure 7 (Part 15 of 21). SPEC Explain Output

```
Processing Section 24.
------------------- SECTION --------------------------------------
Section = 24


SQL Statement:

  Select *
  from tablea
  where field2 BETWEEN 5001 and 6000


Access Table Name = SPEC.TABLEA   ID = 2
|  #Columns = 1
|  Index Scan:   Name = SPEC.INDXA2   ID = 2
|  |  #Key Columns = 1
|  |  Index-only Access
|  |  |  Create/Insert Into Sorted Temp Table   ID = t1
|  |  |  |  #Columns = 1
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Piped
|  Lock Intents
|  |  Table: Intent Share
|  |  Row   : Share
Sorted Temp Table Completion   ID = t1
List Prefetch RID Preparation
Access Table Name = SPEC.TABLEA   ID = 2
|  #Columns = 12
|  Fetch Direct
|  Isolation Level: Uncommitted Read
|  Lock Intents
|  |  Table: Intent None
|  |  Row   : None
|  Residual Predicate(s)
|  |  #Predicates = 2
End of Section


Processing Section 25.
------------------- SECTION --------------------------------------
Section = 25


SQL Statement:

  Select *
  from tablea
  where field4 LIKE 'ABMAAAAAAAAAAAAAAAA'


Access Table Name = SPEC.TABLEA   ID = 2
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
End of Section
```

Figure 7 (Part 16 of 21). SPEC Explain Output

```
Processing Section 26.
------------------- SECTION --------------------------------------
Section = 26


SQL Statement:

  Select *
  from tablea
  where field9='3/17/1991'


Access Table Name = SPEC.TABLEA   ID = 2
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
End of Section


Processing Section 27.
------------------- SECTION --------------------------------------
Section = 27


SQL Statement:

  Select *
  from tablea
  where field7*field8 <= 5000


Access Table Name = SPEC.TABLEA   ID = 2
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
End of Section


Processing Section 28.
------------------- SECTION --------------------------------------
Section = 28


SQL Statement:

  Select *
  from tablea
  where field1 * field2 <= 5000


Access Table Name = SPEC.TABLEA   ID = 2
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
End of Section
```

Figure 7 (Part 17 of 21). SPEC Explain Output

```
Processing Section 29.
------------------- SECTION --------------------------------------
Section = 29


SQL Statement:

  UPDATE TABLEJ SET field6 = 'ZZZZZZZZZZZZZZZZZZZZ'
  WHERE field12 = 550 OR field12 = 690


Access Table Name = SPEC.TABLEJ   ID = 9
|  #Columns = 2
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Update
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
Update:  Table Name = SPEC.TABLEJ   ID = 9
End of Section


Processing Section 30.
------------------- SECTION --------------------------------------
Section = 30


SQL Statement:

  UPDATE TABLEJ SET field6 = 'ZZZZZZZZZZZZZZZZZZZZ'
  WHERE field3 = 550 OR field3 = 690


Data Stream 1: Evaluate at Open
|  Not Piped
|  Table Constructor
|  |  2-Row(s)
|  Nested Loop Join
|  |  Access Table Name = SPEC.TABLEJ   ID = 9
|  |  |  #Columns = 2
|  |  |  Index Scan:  Name = SPEC.INDXJ3   ID = 3
|  |  |  |  #Key Columns = 1
|  |  |  Lock Intents
|  |  |  |  Table: Intent Exclusive
|  |  |  |  Row   : Exclusive
|  Create/Insert Into Temp Table   ID = t1
|  |  #Columns = 3
End of Data Stream 1
Access Temp Table   ID = t1
|  #Columns = 3
|  Relation Scan
|  |  Prefetch Eligible
Update:  Table Name = SPEC.TABLEJ   ID = 9
End of Section
```

Figure 7 (Part 18 of 21). SPEC Explain Output

```
Processing Section 31.
------------------- SECTION --------------------------------------
Section = 31


SQL Statement:

  UPDATE TABLEA SET FIELD3 = 1000
  WHERE field2 <= 999


Access Table Name = SPEC.TABLEA   ID = 2
|  #Columns = 1
|  Index Scan:  Name = SPEC.INDXA2   ID = 2
|  |  #Key Columns = 1
|  |  Index-only Access
|  |  |  Create/Insert Into Sorted Temp Table   ID = t1
|  |  |  |  #Columns = 1
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Piped
|  Lock Intents
|  |  Table: Intent Exclusive
|  |  Row   : Share
Sorted Temp Table Completion   ID = t1
List Prefetch RID Preparation
Access Table Name = SPEC.TABLEA   ID = 2
|  #Columns = 2
|  Fetch Direct
|  Lock Intents
|  |  Table: Intent Exclusive
|  |  Row   : Share
|  Residual Predicate(s)
|  |  #Predicates = 1
Update:  Table Name = SPEC.TABLEA   ID = 2
End of Section


Processing Section 32.
------------------- SECTION --------------------------------------
Section = 32


SQL Statement:

  INSERT INTO TABLEC
     SELECT *
     FROM TABLEJ
     WHERE field12 = 550


Access Table Name = SPEC.TABLEJ   ID = 9
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row   : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
Insert:  Table Name = SPEC.TABLEC   ID = 4
End of Section
```

Figure 7 (Part 19 of 21). SPEC Explain Output

```
Processing Section 33.
------------------- SECTION -------------------------------------
Section = 33


SQL Statement:

  INSERT INTO TABLEC
     SELECT *
     FROM TABLEJ
     WHERE field3 = 550


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 12
|  Index Scan:  Name = SPEC.INDXJ3  ID = 3
|  |  #Key Columns = 1
|  Lock Intents
|  |  Table: Intent Share
|  |  Row  : Share
Insert:  Table Name = SPEC.TABLEC  ID = 4
End of Section


Processing Section 34.
------------------- SECTION -------------------------------------
Section = 34


SQL Statement:

  INSERT INTO TABLEI
     SELECT *
     FROM TABLEA
     WHERE field2 <= 990


Access Table Name = SPEC.TABLEA  ID = 2
|  #Columns = 1
|  Index Scan:  Name = SPEC.INDXA2  ID = 2
|  |  #Key Columns = 1
|  |  Index-only Access
|  |  |  Create/Insert Into Sorted Temp Table  ID = t1
|  |  |  |  #Columns = 1
|  |  |  |  #Sort Key Columns = 1
|  |  |  |  Piped
|  Lock Intents
|  |  Table: Intent Share
|  |  Row  : Share
Sorted Temp Table Completion  ID = t1
List Prefetch RID Preparation
Access Table Name = SPEC.TABLEA  ID = 2
|  #Columns = 12
|  Fetch Direct
|  Isolation Level: Uncommitted Read
|  Lock Intents
|  |  Table: Intent None
|  |  Row  : None
|  Residual Predicate(s)
|  |  #Predicates = 1
Insert:  Table Name = SPEC.TABLEI  ID = 8
End of Section

Processing Section 35.
------------------- SECTION -------------------------------------
Section = 35


SQL Statement:

  INSERT INTO TABLEA
     SELECT *
     FROM TABLEI


Access Table Name = SPEC.TABLEI  ID = 8
|  #Columns = 12
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Share
|  |  Row  : None
Insert:  Table Name = SPEC.TABLEA  ID = 2
End of Section
```

Figure 7 (Part 20 of 21). SPEC Explain Output

```
Processing Section 36.
------------------- SECTION -------------------------------------
Section = 36


SQL Statement:

  DELETE
  FROM TABLEJ
  WHERE FIELD12 = 1


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 1
|  Relation Scan
|  |  Prefetch Eligible
|  Lock Intents
|  |  Table: Update
|  |  Row  : None
|  Sargable Predicate(s)
|  |  #Predicates = 1
Delete:  Table Name = SPEC.TABLEJ  ID = 9
End of Section


Processing Section 37.
------------------- SECTION -------------------------------------
Section = 37


SQL Statement:

  DELETE
  FROM TABLEJ
  WHERE FIELD3 = 2


Access Table Name = SPEC.TABLEJ  ID = 9
|  #Columns = 1
|  Index Scan:  Name = SPEC.INDXJ3  ID = 3
|  |  #Key Columns = 1
|  |  Index-only Access
|  Lock Intents
|  |  Table: Intent Exclusive
|  |  Row  : Exclusive
Delete:  Table Name = SPEC.TABLEJ  ID = 9
End of Section

Processing Section 38.
------------------- SECTION -------------------------------------
Section = 38


SQL Statement:

  DELETE
  FROM TABLEA
  WHERE FIELD3 = 1000


Access Table Name = SPEC.TABLEA  ID = 2
|  #Columns = 1
|  Index Scan:  Name = SPEC.INDXA3  ID = 3
|  |  #Key Columns = 1
|  |  Index-only Access
|  Lock Intents
|  |  Table: Intent Exclusive
|  |  Row  : Exclusive
Delete:  Table Name = SPEC.TABLEA  ID = 2
End of Section
```

Figure 7 (Part 21 of 21). SPEC Explain Output

A.2 RQW

The RTW database is the IBM-internal database against which the RQW benchmark is executed. This section contains the following:

- A.2.1, "RQW Query Descriptions"
- A.2.2, "Catalog Statistics for RTW Database" on page 29

A.2.1 RQW Query Descriptions

Figure 8 (Page 1 of 4). RQW Query Descriptions

Query Number	Description
1	SELECT COUNT(*) FROM ITMNUMBR01 WHERE ITMDESCR > 'D'
2	SELECT COUNT(*) FROM ACTIVLOG01 WHERE ACTITEMN = 'ITE00005MNUMBR'
3	SELECT ITLNEXWC, ITLALTWC FROM ITLOCATN01 WHERE ITLWKCEN < 'WK600' AND ITLLOCAN BETWEEN 'LOCA0001N' AND 'LOCA0020N' AND ITLITEMN = 'ITE00009MNUMBR'
4	SELECT TRKTOOLN, TRKSETUC FROM TRKOPRNS01 WHERE (TRKSETUC = '3' OR TRKSETUC = '4') AND TRKOPKEY = 'TRKI1' AND TRKORDER < 80000 AND TRKITEMN BETWEEN 'ITE00100MNUMBR' AND 'ITE10100MNUMBR' AND TRKDATE1 = 324
5	SELECT COUNT(*) FROM LBRSTATS01 L , EMPLOYEE01 E WHERE (E.EMPLTEAM BETWEEN 500 AND 600 OR E.EMPLTEAM BETWEEN 010 AND 110) AND (E.EMPDEPTN BETWEEN '020' AND '490') AND (E.EMPSHIFT = '1' AND E.EMPLEVEL IN (0, 1) AND L.LBREMPLN = E.EMPEMPLN) AND (E.EMPSALRY BETWEEN 20000 AND 39000)
6	SELECT DISTINCT LBREMPLN FROM LBRSTATS01 WHERE LBRUPROD BETWEEN 500 AND 600 OR LBRUPROD BETWEEN 010 AND 110
7	SELECT COUNT(*) FROM ITLOCATN01 WHERE ITLTENTR <> '0000' AND ITLITEMN = 'ITE00001MNUMBR' AND ITLLOCAN IN ('LOCA0002N', 'LOCA0007N', 'LOCA0011N') AND ITLTABLN IN ('ITLOCATN', 'ITLOCATX') AND NOT ITLWKCEN IN ('WK016', 'WK006', 'WK033', 'WK333')
8	SELECT COUNT(DISTINCT SUPPARTN) FROM SUPPLIER01
9	SELECT LBREMPLN, LBRUPROD, LBRITEMS FROM LBRSTATS01 WHERE LBRUPROD >= 580 OR LBRITEMS < 'ITE00300MNUMBR' ORDER BY LBRUPROD
10	SELECT EMPEMPLN, EMPDEPTN, EMPLPROJ, DEPTSIZE FROM EMPLOYEE01, DEPTMENT01 WHERE EMPLPROJ > DEPTSIZE * 25 AND EMPDEPTN = DEPDEPTN ORDER BY EMPLPROJ

Figure 8 (Page 2 of 4). RQW Query Descriptions

Query Number	Description
11	SELECT LBREMPLN, LBRUPROD, COUNT(*) FROM LBRSTATS01 GROUP BY LBREMPLN, LBRUPROD HAVING COUNT(*) > 1 ORDER BY LBREMPLN, LBRUPROD
12	SELECT * FROM TRKOPRNS01 WHERE TRKITEMN LIKE 'ITE01%'
13	SELECT * FROM SUPPLIER01 WHERE SUPPARTN BETWEEN '000001' AND '000201' ORDER BY 1, 2, 3, 4, 5
14	SELECT MIN(LABPARTN) FROM LABOROPS01 WHERE LABOPERS = 'LB011'
15	SELECT ((SUM(PARTCOST)/10)*.02), PARTTYPE FROM PARTS00001 GROUP BY PARTTYPE
16	SELECT SUPSUPPN, SUPPARTN, SUPOINFO, PARMTRL1, PARTTYPE, PARTCOST FROM PARTS00001, SUPPLIER01 WHERE PARPARTN = SUPPARTN AND SUPPARTN BETWEEN '000001' AND '005000' ORDER BY 1, 2
17	SELECT LOCLOCAN, LOCSCODE, WKCDLABH, (WKCDMACH+4*WKCDSETH), WKCNMACH, WKCNSHFT FROM LOCATION01, WKCENTER01 WHERE LOCWKCEN = WKCWKCEN AND (WKCDMACH+4*WKCDSETH) < 800 ORDER BY 4
18	SELECT A.LABPARTN, A.LABDEPTN, A.LABTABLN, A.LABROUTC, A.LABOPERS, A.LABEFFBD, A.LABROUTN, A.LABSUTIM, B.DEPTNAME FROM LABOROPS01 A, DEPTMENT01 B WHERE A.LABTABLN IN (' ', 'LABOROPS') AND A.LABOPERS IN ('LB001','LB005') AND A.LABDEPTN = B.DEPDEPTN AND A.LABPARTN = 'P0012345ARTNUM' AND A.LABDEPTN >= '010'
19	SELECT COUNT(DISTINCT EMPDEPTN) FROM EMPLOYEE01, WKCENTER01, TRKOPRNS01, LBRSTATS01 WHERE EMPEMPLN = LBREMPLN AND EMPLPROJ = 25 AND (EMPLEVEL = WKCNMACH AND EMPDEPTN = WKCDEPTN) AND TRKORDER > 01234 AND TRKITEMN = LBRITEMS
20	SELECT COUNT(*) FROM TRKOPRNS01 WHERE TRKOPKEY IN ('TRKI1') AND TRKORDER NOT IN (88, 89) AND TRKSETUC = '3' AND TRKTABLN IN ('TRKOPRNS', 'TRKOPRN2') AND TRKITEMN <> 'ITE00666NUMBER' AND (TRKTOOLN BETWEEN 100 AND 4299 OR TRKTOOLN BETWEEN 4400 AND 5999 OR TRKTOOLN BETWEEN 6400 AND 6590 OR TRKTOOLN BETWEEN 7200 AND 7399) AND NOT TRKTOOLN IN (4212, 5441, 5813, 5993, 5994, 7323, 7229) AND NOT (TRKSETUH BETWEEN 09900 AND 09999 OR TRKLABRH BETWEEN 09900 AND 09999 OR TRKMACHH BETWEEN 09900 AND 09999 OR TRKMOVET BETWEEN 09900 AND 09999)

Figure 8 (Page 3 of 4). RQW Query Descriptions

Query Number	Description
21	SELECT W.WKCDEPTN, D.DEPTNAME, D.DEPTSIZE, W.WKCNMACH FROM WKCENTER01 W, DEPTMENT01 D WHERE W.WKCDEPTN = D.DEPDEPTN ORDER BY 1
22	SELECT V.VENVENDN, V.VENDNAME, V.VENADTEL, V.VENCOMMC, V.VENFOBPT FROM ORDER00001 O, VENDOR0001 V WHERE O.ORDRNMBR = '0001' AND V.VENVENDN = O.ORDVENDN
23	SELECT D.DEPDEPTN, D.DEPLOCTN, SUM(L.LABROUTN), SUM(L.LABTFACN), SUM(L.LABEFFED), SUM(L.LABSHRFR) FROM DEPTMENT01 D, LABOROPS01 L WHERE L.LABDEPTN = D.DEPDEPTN AND L.LABPARTN BETWEEN 'P0000001ARTNUM' AND 'P0004000ARTNUM' GROUP BY D.DEPLOCTN, D.DEPDEPTN ORDER BY D.DEPLOCTN, D.DEPDEPTN
24	SELECT WKCWKCEN, PRTSTYPE, WKCNMACH, SUM(PRTSCOST), COUNT(*) FROM PRTNUMBR01 P, WKCENTER01 W WHERE PRTSTYPE = WKCFILL1 AND PRTSTYPE IN (SELECT DISTINCT WKCFILL1 FROM WKCENTER01 W WHERE WKCWKCEN IN ('WK046', 'WK023', 'WK057', 'WK001')) GROUP BY WKCWKCEN, PRTSTYPE, WKCNMACH ORDER BY WKCWKCEN, PRTSTYPE, WKCNMACH
25	SELECT WKCWKCEN, WKCNMACH, WKCNSHFT, WKCDEPTN, LOCLOCAN, LOCSCODE, LOCTABLN, DEPTNAME, DEPTSIZE FROM WKCENTER01 W, LOCATION01 L, DEPTMENT01 D WHERE WKCWKCEN = LOCWKCEN AND WKCDEPTN = DEPDEPTN ORDER BY 1, 4, 5, 3
26	SELECT LOCLOCAN, LOCWKCEN, LOCSCODE FROM LOCATION01 X WHERE EXISTS (SELECT ITLLOCAN FROM ITLOCATN01 WHERE ITLITEMN = 'ITE00008MNUMBR' AND ITLLOCAN = X.LOCLOCAN)
27	SELECT EMPDEPTN, SUM(EMPOTIME), SUM(EMPOTIME-EMPOTIME) FROM EMPLOYEE01 WHERE EMPLPROJ = 08 AND EMPSHIFT = '1' AND EMPLEVEL = 3 AND EMPDEPTN IN (SELECT DISTINCT EMPDEPTN FROM EMPLOYEE01 WHERE EMPLPROJ = 09 AND EMPSHIFT = '1' AND EMPLEVEL = 3) GROUP BY EMPDEPTN UNION SELECT EMPDEPTN, SUM(EMPOTIME-EMPOTIME), SUM(EMPOTIME) FROM EMPLOYEE01 WHERE EMPLPROJ = 09 AND EMPSHIFT = '1' AND EMPLEVEL = 3 GROUP BY EMPDEPTN

Figure 8 (Page 4 of 4). RQW Query Descriptions	
Query Number	**Description**
28	SELECT PRTSTYPE, PRTUMEAS, AVG(PRTSCOST), COUNT(*), MAX(PRTSCOST) FROM PRTNUMBR01 WHERE PRTSCOST > 0010000 GROUP BY PRTSTYPE, PRTUMEAS UNION SELECT PRTSTYPE, PRTUMEAS, AVG(PRTSCOST), COUNT(*), MIN(PRTSCOST) FROM PRTNUMBR01 WHERE PRTSCOST < 0010000 GROUP BY PRTSTYPE, PRTUMEAS UNION SELECT PRTSTYPE, PRTUMEAS, AVG(PRTSCOST), COUNT(*), MAX(PRTSCOST) FROM PRTNUMBR01 WHERE PRTSCOST = 0010000 GROUP BY PRTSTYPE, PRTUMEAS
29	SELECT EMPSHIFT, EMPLEVEL, EMPLPROJ, DEPTSIZE, SUM(WKCNSHFT), SUM(WKCNSHFT) FROM EMPLOYEE01, DEPTMENT01, WKCENTER01 WHERE EMPDEPTN = WKCDEPTN AND EMPLTEAM = WKCNMACH AND EMPDEPTN = DEPDEPTN GROUP BY EMPSHIFT, EMPLEVEL, EMPLPROJ, DEPTSIZE ORDER BY 5 DESC
30	SELECT LOCLOCAN, ITLPREWC, DEPDEPTN, DEPTNAME, ITLWKCEN, EMPLQUAL FROM LOCATION01, ITLOCATN01, DEPTMENT01, WKCENTER01, EMPLOYEE01 WHERE ITLITEMN = 'ITE03113MNUMBR' AND ITLLOCAN = 'LOCA0001N' AND ITLWKCEN = WKCWKCEN AND WKCDEPTN = DEPDEPTN AND LOCWKCEN = ITLPREWC AND EMPDEPTN = WKCDEPTN AND EMPLEVEL = WKCNSHFT AND EMPLQUAL <> 'EN ' AND EMPLQUAL <> 'FR ' ORDER BY LOCLOCAN, ITLPREWC, DEPDEPTN

A.2.2 Catalog Statistics for RTW Database

select name, fid, card, npages, fpages from sysibm.systables where name like '%01' order by name

NAME	FID	CARD	NPAGES	FPAGES
ACTIVLOG01	20	510000	5734	5734
DEPTMENT01	26	100	2	2
EMPLOYEE01	24	2000	47	47
ITLOCATN01	22	255000	5670	5670
ITMNUMBR01	19	17000	188	188
ITPORDER01	16	34000	426	426
LABOROPS01	29	140000	4245	4245
LBRSTATS01	25	12000	388	388
LOCATION01	23	4250	43	43
OPARTS0001	32	4000	41	41
ORDER00001	31	400	6	6
PARTS00001	33	24000	1602	1602
PRTNUMBR01	28	14000	779	779
PURCHASE01	17	12800	1068	1068
SPRNUMBR01	18	2800	156	156
SUPPLIER01	34	48000	924	924
TRKOPRNS01	21	34000	2835	2835
VENDOR0001	30	200	6	6
WKCENTER01	27	500	6	6

19 record(s) selected.

select sum(npages) from sysibm.systables where name like '%01'

1
24166

1 record(s) selected.

select name, tbname, uniquerule, nleaf, nlevels, firstkeycard, fullkeycard, clusterratio, substr(colnames,1,30), colcount from sysibm.sysindexes where tbname like '%01' order by tbname

NAME	TBNAME	UNIQUERULE	NLEAF	NLEVELS	FIRSTKEYCARD	FULLKEYCARD	CLUSTERRATIO	9	COLCOUNT
XACTIT01	ACTIVLOG01	D	3423	3	17000	510000	100	+ACTITEMN+ACTVDATE	2
XDEPDE01	DEPTMENT01	U	1	1	100	100	100	+DEPDEPTN	1
XEMPEM01	EMPLOYEE01	U	9	2	2000	2000	100	+EMPEMPLN	1
XEMPDE01	EMPLOYEE01	D	3	2	100	100	31	+EMPDEPTN	1
XEMPSH01	EMPLOYEE01	D	3	2	3	3	98	+EMPSHIFT	1
XITLIT01	ITLOCATN01	U	2218	3	17000	255000	100	+ITLITEMN+ITLLOCAN	2
XITLLO01	ITLOCATN01	D	324	3	55	55	37	+ITLLOCAN	1
XITMIT01	ITMNUMBR01	U	105	2	17000	17000	100	+ITMITEMN	1
XITPON01	ITPORDER01	D	52	2	2851	2851	3	+ITPPONUM	1
XITPIT01	ITPORDER01	U	266	3	15300	34000	100	+ITPITEMN+ITPPONUM	2
XITPQC01	ITPORDER01	D	47	2	618	618	23	+ITPQCOMP	1
XLABPA01	LABOROPS01	U	1053	3	14000	140000	100	+LABPARTN+LABOPERS	2
XLBREM01	LBRSTATS01	U	81	2	2061	12000	99	+LBREMPLN+LBRTSTPF	2
XLOCAT01	LOCATION01	U	21	2	4250	4250	100	+LOCLOCAN	1
XOPARN01	OPARTS0001	U	21	2	400	4000	100	+OPARNMBR+OPAPARTN	2
XOPAPA01	OPARTS0001	D	13	2	2778	2778	7	+OPAPARTN	1
XORDVE01	ORDER00001	U	3	2	178	400	48	+ORDVENDN+ORDRNMBR	2
XORDRN01	ORDER00001	U	2	2	400	400	100	+ORDRNMBR	1
XPARPA01	PARTS00001	U	94	2	24000	24000	99	+PARPARTN	1
XPRTPA01	PRTNUMBR01	U	86	2	14000	14000	100	+PRTPARTN	1
XPRTMA01	PRTNUMBR01	D	26	2	2296	2296	6	+PRTMATRL	1
XPRTM101	PRTNUMBR01	D	19	2	70	70	43	+PRTMTRL1	1
XPRTM201	PRTNUMBR01	D	20	2	378	378	13	+PRTMTRL2	1
XPRTM301	PRTNUMBR01	D	20	2	583	583	10	+PRTMTRL3	1
XPURPO01	PURCHASE01	U	93	2	6400	12800	100	+PURPONUM+PURDETAL	2
XSPRPA01	SPRNUMBR01	U	18	2	2800	2800	100	+SPRPARTN	1
XSUPPA01	SUPPLIER01	D	126	2	24113	24113	99	+SUPPARTN	1
XTRKIT01	TRKOPRNS01	U	256	3	17000	34000	100	+TRKITEMN+TRKOPKEY	2
XTRKOP01	TRKOPRNS01	D	45	2	2	2	91	+TRKOPKEY	1
XVENVE01	VENDOR0001	U	1	1	200	200	100	+VENVENDN	1
XWKCDE01	WKCENTER01	U	3	2	88	500	71	+WKCDEPTN+WKCWKCEN	2
XWKCWK01	WKCENTER01	U	2	2	500	500	100	+WKCWKCEN	1

32 record(s) selected.

Figure 9 (Part 1 of 5). Catalog Statistics for RTW Database

```
select sum(nleaf) from sysibm.sysindexes where tbname like '%01'

1
-----------
       8454

  1 record(s) selected.
```

```
select tbname, name, colno, coltype, nulls, length, scale, colcard, high2key, low2key, keyseq from sysibm.syscolumns where tbname like '%01' order by tbname, colno
```

TBNAME	NAME	COLNO	COLTYPE	NULLS	LENGTH	SCALE	COLCARD	HIGH2KEY	LOW2KEY	KEYSEQ
ACTIVLOG01	ACTTABLN	0	CHAR	N	8	0	1	ACTIVLOG	ACTIVLOG	-
ACTIVLOG01	ACTITEMN	1	CHAR	N	14	0	17000	ITE16999MNUMBR	ITE00002MNUMBR	-
ACTIVLOG01	ACTVDATE	2	CHAR	N	2	0	30	29	02	-
ACTIVLOG01	ACTDESCR	3	CHAR	N	7	0	1521	zvTZRcj	Cbcltv	-
ACTIVLOG01	ACTLTIME	4	CHAR	N	4	0	2312	9984	8	-
DEPTMENT01	DEPTABLN	0	CHAR	N	8	0	1	DEPTMENT	DEPTMENT	-
DEPTMENT01	DEPDEPTN	1	CHAR	N	3	0	100	099	002	-
DEPTMENT01	DEPTNAME	2	CHAR	N	11	0	100	DEPTMENT099	DEPTMENT002	-
DEPTMENT01	DEPTSIZE	3	SMALLINT	N	2	0	40			-
DEPTMENT01	DEPLOCTN	4	CHAR	N	4	0	10	D009	D002	-
EMPLOYEE01	EMPTABLN	0	CHAR	N	8	0	1	EMPLOYEE	EMPLOYEE	-
EMPLOYEE01	EMPEMPLN	1	CHAR	N	8	0	2000	EMPN1999	EMPN0002	-
EMPLOYEE01	EMPLOSEX	2	CHAR	N	1	0	53	y	A	-
EMPLOYEE01	EMPDEPTN	3	CHAR	N	3	0	100	099	002	-
EMPLOYEE01	EMPLEVEL	4	SMALLINT	N	2	0	9			-
EMPLOYEE01	EMPSHIFT	5	CHAR	N	1	0	3	3	1	-
EMPLOYEE01	EMPLTEAM	6	DECIMAL	N	3	0	200			-
EMPLOYEE01	EMPSALRY	7	DECIMAL	N	7	2	1439			-
EMPLOYEE01	EMPLPROJ	8	DECIMAL	N	2	0	50			-
EMPLOYEE01	EMPOTIMS	9	DECIMAL	N	5	0	1472			-
EMPLOYEE01	EMPOTIME	10	DECIMAL	N	5	0	1472			-
EMPLOYEE01	EMPOTIMA	11	INTEGER	N	4	0	1981			-
EMPLOYEE01	EMPLQUAL	12	CHAR	N	6	0	1521	zvZvRq	Cbclt	-
EMPLOYEE01	EMPLJOIN	13	DECIMAL	N	5	0	1472			-
EMPLOYEE01	EMPLPROM	14	DECIMAL	N	5	0	1472			-
EMPLOYEE01	EMPLNAME	15	CHAR	N	22	0	1784	zvZvRqTVzVEcAlte	CbcltvtUwLCMtgv	-
EMPLOYEE01	EMPFILL1	16	CHAR	N	7	0	1619	zvZvRqT	Cbcltv	-
ITLOCATN01	ITLTABLN	0	CHAR	N	8	0	1	ITLOCATN	ITLOCATN	-
ITLOCATN01	ITLITEMN	1	CHAR	N	14	0	17000	ITE16999MNUMBR	ITE00002MNUMBR	-
ITLOCATN01	ITLLOCAN	2	CHAR	N	9	0	55	LOCA0054N	LOCA0002N	-
ITLOCATN01	ITLWKCEN	3	CHAR	N	5	0	488	WK499	WK002	-
ITLOCATN01	ITLPREWC	4	CHAR	N	5	0	488	WK499	WK002	-
ITLOCATN01	ITLNEXWC	5	CHAR	N	5	0	488	WK499	WK002	-
ITLOCATN01	ITLTENTR	6	CHAR	N	4	0	1948	9993	4	-
ITLOCATN01	ITLTLEAV	7	CHAR	N	4	0	1948	9993	4	-
ITLOCATN01	ITLSTENT	8	CHAR	N	4	0	1948	9993	4	-
ITLOCATN01	ITLSTLEV	9	CHAR	N	4	0	1948	9993	4	-
ITLOCATN01	ITLALTWC	10	CHAR	N	5	0	488	WK499	WK002	-
ITLOCATN01	ITLNALTW	11	CHAR	N	5	0	488	WK499	WK002	-
ITLOCATN01	ITLSTATC	12	CHAR	N	6	0	2014	zvZvRq	Exqed	-
ITMNUMBR01	ITMTABLN	0	CHAR	N	8	0	1	ITMNUMBR	ITMNUMBR	-
ITMNUMBR01	ITMITEMN	1	CHAR	N	14	0	17000	ITE16999MNUMBR	ITE00002MNUMBR	-
ITMNUMBR01	ITMDESCR	2	CHAR	N	11	0	11591	zxaCUpgEUbm	AgusjLGjZs	-
ITMNUMBR01	ITMTYPEC	3	CHAR	N	1	0	53	y	A	-
ITPORDER01	ITPTABLN	0	CHAR	N	8	0	1	ITPORDER	ITPORDER	-
ITPORDER01	ITPITEMN	1	CHAR	N	14	0	15300	ITE16999MNUMBR	ITE00003MNUMBR	-
ITPORDER01	ITPPONUM	2	CHAR	N	6	0	2851	PO6397	PO0004	-
ITPORDER01	ITPQCOMP	3	INTEGER	N	4	0	618			-
ITPORDER01	ITPQREMN	4	SMALLINT	N	2	0	4025	k		-
ITPORDER01	ITPDCOMP	5	DECIMAL	N	7	0	3753	b		-
ITPORDER01	ITPFILL1	6	CHAR	N	2	0	2146	zu	D	-
LABOROPS01	LABTABLN	0	CHAR	N	8	0	1	LABOROPS	LABOROPS	-
LABOROPS01	LABPARTN	1	CHAR	N	14	0	14000	P0013999ARTNUM	P0000002ARTNUM	-
LABOROPS01	LABOPERS	2	CHAR	N	5	0	24	LB023	LB002	-
LABOROPS01	LABDEPTN	3	CHAR	N	3	0	100	099	002	-
LABOROPS01	LABEFFBD	4	DECIMAL	N	5	0	712	|		-
LABOROPS01	LABEFFED	5	DECIMAL	N	5	0	712	|		-
LABOROPS01	LABROUTN	6	DECIMAL	N	7	0	912	l		-
LABOROPS01	LABROUTC	7	CHAR	N	1	0	53	y	A	-
LABOROPS01	LABWKCEN	8	CHAR	N	5	0	372	WK498	WK003	-
LABOROPS01	LABGRADE	9	CHAR	N	3	0	736	zcE	LI	-
LABOROPS01	LABSUTIM	10	INTEGER	N	4	0	768			-
LABOROPS01	LABSUCDE	11	CHAR	N	1	0	53	y	A	-
LABOROPS01	LABMATIM	12	INTEGER	N	4	0	768			-
LABOROPS01	LABORTIM	13	INTEGER	N	4	0	768			-
LABOROPS01	LABOVRLP	14	CHAR	N	1	0	53	y	A	-
LABOROPS01	LABMAXFA	15	INTEGER	N	4	0	768			-
LABOROPS01	LABMNSAQ	16	INTEGER	N	4	0	768			-
LABOROPS01	LABMNSAH	17	INTEGER	N	4	0	768			-
LABOROPS01	LABINSPN	18	CHAR	N	1	0	53	y	A	-
LABOROPS01	LABINSSR	19	CHAR	N	2	0	960	zc	L	-
LABOROPS01	LABSHRFR	20	DECIMAL	N	5	1	784			-
LABOROPS01	LABTFACN	21	DECIMAL	N	3	0	544	|		-
LABOROPS01	LABHANIN	22	CHAR	N	8	0	832	zcErEMju	LIrKEQM	-
LABOROPS01	LABHANDE	23	CHAR	N	12	0	784	zcErEMjuDuUA	LIrKEQMCZtm	-
LABOROPS01	LABHANTI	24	CHAR	N	4	0	848	9990	6	-
LABOROPS01	LABFILL1	25	CHAR	N	4	0	1056	zcEr	LIr	-

Figure 9 (Part 2 of 5). Catalog Statistics for RTW Database

LBRSTATS01	LBRTABLN	0	CHAR	N	8	0	4	BRSTATS8	BRSTATS7	-
LBRSTATS01	LBREMPLN	1	CHAR	N	8	0	2061	MPN1957I	EMPN0002	-
LBRSTATS01	LBRTSTPF	2	CHAR	N	8	0	8897	85632000	02310008	-
LBRSTATS01	LBRTSTPS	3	CHAR	N	8	0	8897	85632000	0231000	-
LBRSTATS01	LBRITEMS	4	CHAR	N	14	0	2445	TE15739MNUMBR	ITE00005MNUMBR	-
LBRSTATS01	LBRUPROD	5	INTEGER	N	4	0	536			-
LBRSTATS01	LBRSTATI	6	CHAR	N	3	0	2478	zsu	ADS	-
LBRSTATS01	LBRSTATC	7	CHAR	N	3	0	2478	zsu	ADS	-
LBRSTATS01	LBROPRNS	8	CHAR	N	20	0	3079	zsuIBADREqkDqLYW	ADShIBZWRcnSbKzc	-
LBRSTATS01	LBRDESCR	9	CHAR	N	42	0	2578	zsuIBADREqkDqLYW	ADShIBZWRcnSbKzc	-
LOCATION01	LOCTABLN	0	CHAR	N	8	0	1	LOCATION	LOCATION	-
LOCATION01	LOCLOCAN	1	CHAR	N	9	0	4250	LOCA4249N	LOCA0002N	-
LOCATION01	LOCWKCEN	2	CHAR	N	5	0	488	WK499	WK002	-
LOCATION01	LOCSCODE	3	CHAR	N	8	0	2014	ztVTLgQc	InOgYqb	-
OPARTS0001	OPATABLN	0	CHAR	N	8	0	1	OPARTS00	OPARTS00	-
OPARTS0001	OPARNMBR	1	CHAR	N	4	0	400	0399	0002	-
OPARTS0001	OPAPARTN	2	CHAR	N	6	0	2778	023983	000010	-
OPARTS0001	OPADELAY	3	CHAR	N	6	0	2644	998441	477	-
OPARTS0001	OPAFILLD	4	CHAR	N	6	0	2644	998441	477	-
ORDER00001	ORDTABLN	0	CHAR	N	8	0	1	ORDER000	ORDER000	-
ORDER00001	ORDVENDN	1	CHAR	N	6	0	178	VEN198	VEN002	-
ORDER00001	ORDRNMBR	2	CHAR	N	4	0	400	0399	0002	-
ORDER00001	ORDACCTN	3	DECIMAL	N	5	0	368	2		-
ORDER00001	ORDBUYRN	4	DECIMAL	N	5	0	20			-
ORDER00001	ORDSTATS	5	CHAR	N	5	0	2	nvaro		-
ORDER00001	ORDQUANT	6	INTEGER	N	4	0	396			-
ORDER00001	ORDREQND	7	DECIMAL	N	7	0	400	dr<	Wh\	-
ORDER00001	ORDCODES	8	CHAR	N	3	0	392	znc	ADS	-
ORDER00001	ORDFILL1	9	CHAR	N	6	0	400	zncnoz	ADShkA	-
PARTS00001	PARTABLN	0	CHAR	N	8	0	2	PARTS000	PART-ADD	-
PARTS00001	PARPARTN	1	CHAR	N	6	0	24000	023999	000002	-
PARTS00001	PARTTYPE	2	CHAR	N	1	0	53	y	A	-
PARTS00001	PARMATRL	3	CHAR	N	8	0	1248	PM023993	PM000004	-
PARTS00001	PARMTRL1	4	CHAR	N	8	0	100	PM000099	PM000001	-
PARTS00001	PARMTRL2	5	CHAR	N	8	0	704	PM000999	PM000001	-
PARTS00001	PARMTRL3	6	CHAR	N	8	0	800	PM001198	PM000002	-
PARTS00001	PAROCODE	7	CHAR	N	6	0	1619	999390	000030	-
PARTS00001	PARTCOST	8	DECIMAL	N	9	2	1390	w		-
PARTS00001	PARLPRCE	9	DECIMAL	N	9	2	1390	w		-
PARTS00001	PARLCODE	10	CHAR	N	15	0	1505	zudkkmgUjkLpKTo	GOzgBKcaEfmFgk	-
PARTS00001	PARLDESC	11	CHAR	N	20	0	1652	zudkkmgUjkLpKToL	GOzgBKcaEfmFgkg	-
PARTS00001	PARRTVLT	12	CHAR	N	5	0	2014	99977	00030	-
PARTS00001	PARSECOQ	13	DECIMAL	N	11	0	4297			-
PARTS00001	PARLEVEC	14	CHAR	N	9	0	1488	999779404	30742+	-
PARTS00001	PARDATEC	15	CHAR	N	6	0	1619	998997	000339	-
PARTS00001	PARNUMPC	16	DECIMAL	N	5	0	1718	|		-
PARTS00001	PARENGSP	17	CHAR	N	45	0	1619	zudkkmgUjkLpKToL	GOzgBKcaEfmFgkg	-
PARTS00001	PAREDESC	18	CHAR	N	35	0	1619	zudkkmgUjkLpKToL	GOzgBKcaEfmFgkg	-
PARTS00001	PARDESCR	19	CHAR	N	31	0	1472	zudkkmgUjkLpKToL	GOzgBKcaEfmFgkg	-
PARTS00001	PARFILL1	20	CHAR	N	12	0	2014	zudkkmgUjkLp	GOzgBKcaEfm	-
PRTNUMBR01	PRTTABLN	0	CHAR	N	8	0	1	PRTNUMBR	PRTNUMBR	-
PRTNUMBR01	PRTPARTN	1	CHAR	N	14	0	14000	P0013999ARTNUM	P0000002ARTNUM	-
PRTNUMBR01	PRTSTYPE	2	CHAR	N	1	0	53	y	A	-
PRTNUMBR01	PRTUMEAS	3	CHAR	N	2	0	1619	zx	C	-
PRTNUMBR01	PRTPMAST	4	CHAR	N	5	0	2411	zxUWh	CSAk	-
PRTNUMBR01	PRTMATRL	5	CHAR	N	8	0	2296	PM013996	PM000010	-
PRTNUMBR01	PRTRECCT	6	DECIMAL	N	9	0	2279	6u<		-
PRTNUMBR01	PRTMTRL1	7	CHAR	N	8	0	70	PM000069	PM000002	-
PRTNUMBR01	PRTRECT1	8	DECIMAL	N	9	0	2279	6u<		-
PRTNUMBR01	PRTMTRL2	9	CHAR	N	8	0	378	PM000398	PM000002	-
PRTNUMBR01	PRTRECT2	10	DECIMAL	N	9	0	2279	6u<		-
PRTNUMBR01	PRTMTRL3	11	CHAR	N	8	0	583	PM000698	PM000004	-
PRTNUMBR01	PRTRECT3	12	DECIMAL	N	9	0	2279	6u<		-
PRTNUMBR01	PRTOCODE	13	CHAR	N	6	0	2047	999398	339	-
PRTNUMBR01	PRTORPTE	14	CHAR	N	6	0	2711	zxUWhF	CSAku	-
PRTNUMBR01	PRTORQTY	15	INTEGER	N	4	0	1488			-
PRTNUMBR01	PRTSAFST	16	INTEGER	N	4	0	1488			-
PRTNUMBR01	PRTMINIM	17	INTEGER	N	4	0	1488			-
PRTNUMBR01	PRTMAXIM	18	INTEGER	N	4	0	1488			-
PRTNUMBR01	PRTSCOST	19	DECIMAL	N	9	2	2212	)0		-
PRTNUMBR01	PRTSUCST	20	DECIMAL	N	9	2	2212	)0		-
PRTNUMBR01	PRTLPRCE	21	DECIMAL	N	11	2	1981	6u0		-
PRTNUMBR01	PRTNPRCE	22	DECIMAL	N	11	2	1981	6u0		-
PRTNUMBR01	PRTDISCC	23	CHAR	N	4	0	2378	zxUW	ABZs	-
PRTNUMBR01	PRTINVEN	24	DECIMAL	N	7	0	2611	)<		-
PRTNUMBR01	PRTDESCR	25	CHAR	N	35	0	2378	zxUWhFfFpkHaofNC	ABZsAjulwVqhfEsj	-
PRTNUMBR01	PRTFILL1	26	CHAR	N	33	0	2			-

Figure 9 (Part 3 of 5). Catalog Statistics for RTW Database

PURCHASE01	PURTABLN	0	CHAR	N	8	0	1	PURCHASE	PURCHASE	-
PURCHASE01	PURPONUM	1	CHAR	N	6	0	6400	PO6399	PO0002	-
PURCHASE01	PURDETAL	2	CHAR	N	12	0	30	000038888888	000011111111	-
PURCHASE01	PURODATE	3	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURITEMN	4	CHAR	N	14	0	928	ITE16980MNUMBR	ITE00028MNUMBR	-
PURCHASE01	PURBUYRN	5	CHAR	N	15	0	30	000038888888888	000011111111111	-
PURCHASE01	PURVENDN	6	CHAR	N	6	0	10	888888	111111	-
PURCHASE01	PUROSTAT	7	CHAR	N	6	0	752	ztFYvg	eU et	-
PURCHASE01	PURREQNO	8	DECIMAL	N	15	0	760			-
PURCHASE01	PURREQND	9	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURSHIPD	10	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURDELVD	11	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURSTOKD	12	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURDCODE	13	CHAR	N	5	0	848	ztFYv	eU e	-
PURCHASE01	PURVPRDF	14	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURVPRDL	15	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURQUANT	16	INTEGER	N	4	0	1			-
PURCHASE01	PURQRECD	17	INTEGER	N	4	0	1			-
PURCHASE01	PURDRECD	18	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURRREPN	19	DECIMAL	N	15	0	760			-
PURCHASE01	PURQREJT	20	DECIMAL	N	11	0	928	″iY		-
PURCHASE01	PURDREJT	21	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURUNITP	22	DECIMAL	N	13	2	928	″iY		-
PURCHASE01	PUROTHRC	23	DECIMAL	N	13	2	928	″iY		-
PURCHASE01	PURTAMTP	24	DECIMAL	N	15	2	736			-
PURCHASE01	PURACCTN	25	DECIMAL	N	15	0	760			-
PURCHASE01	PURDLPAY	26	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURDCLOS	27	DECIMAL	N	7	0	880	u(<		-
PURCHASE01	PURVTERM	28	CHAR	N	84	0	800	ztFYvgeQKaFCKGoY	eU etovXjsEeTmD	-
PURCHASE01	PURFILL1	29	CHAR	N	64	0	720	ztFYvgeQKaFCKGoY	eU etovXjsEeTmD	-
SPRNUMBR01	SPRTABLN	0	CHAR	N	8	0	1	SPRNUMBR	SPRNUMBR	-
SPRNUMBR01	SPRPARTN	1	CHAR	N	14	0	2800	P0002799ARTNUM	P0000002ARTNUM	-
SPRNUMBR01	SPRSTYPE	2	CHAR	N	1	0	53	y	A	-
SPRNUMBR01	SPRUMEAS	3	CHAR	N	2	0	1168	zu	L	-
SPRNUMBR01	SPRPMAST	4	CHAR	N	5	0	1915	zudkk	LXjo	-
SPRNUMBR01	SPRMATRL	5	CHAR	N	8	0	1200	PM002796	PM000003	-
SPRNUMBR01	SPRRECCT	6	DECIMAL	N	9	0	1439	21		-
SPRNUMBR01	SPRMTRL1	7	CHAR	N	8	0	14	PM000013	PM000002	-
SPRNUMBR01	SPRRECT1	8	DECIMAL	N	9	0	1439	21		-
SPRNUMBR01	SPRMTRL2	9	CHAR	N	8	0	77	PM000079	PM000002	-
SPRNUMBR01	SPRRECT2	10	DECIMAL	N	9	0	1439	21		-
SPRNUMBR01	SPRMTRL3	11	CHAR	N	8	0	132	PM000138	PM000002	-
SPRNUMBR01	SPRRECT3	12	DECIMAL	N	9	0	1439	21		-
SPRNUMBR01	SPROCODE	13	CHAR	N	6	0	1264	999022	339	-
SPRNUMBR01	SPRORPTE	14	CHAR	N	6	0	1423	zudkkm	LXjoe	-
SPRNUMBR01	SPRORQTY	15	INTEGER	N	4	0	1216			-
SPRNUMBR01	SPRSAFST	16	INTEGER	N	4	0	1216			-
SPRNUMBR01	SPRMINIM	17	INTEGER	N	4	0	1216			-
SPRNUMBR01	SPRMAXIM	18	INTEGER	N	4	0	1216			-
SPRNUMBR01	SPRSCOST	19	DECIMAL	N	9	2	1374	9		-
SPRNUMBR01	SPRSUCST	20	DECIMAL	N	9	2	1374	9		-
SPRNUMBR01	SPRLPRCE	21	DECIMAL	N	11	2	1751	2		-
SPRNUMBR01	SPRNPRCE	22	DECIMAL	N	11	2	1751	2		-
SPRNUMBR01	SPRDISCC	23	CHAR	N	4	0	1603	zudk	AESk	-
SPRNUMBR01	SPRINVEN	24	DECIMAL	N	7	0	1423	9		-
SPRNUMBR01	SPRDESCR	25	CHAR	N	35	0	1554	zudkkmgUjkLpKToL	AESkfQfNNLQMuZHG	-
SPRNUMBR01	SPRFILL1	26	CHAR	N	33	0	1849	zudkkmgUjkLpKToL	AESkfQfNNLQMuZHG	-
SUPPLIER01	SUPTABLN	0	CHAR	N	8	0	3	UPPLIER	SUPP-ADD	-
SUPPLIER01	SUPPARTN	1	CHAR	N	6	0	24113	234720	000002	-
SUPPLIER01	SUPSUPPN	2	CHAR	N	6	0	2844	04505S	000003	-
SUPPLIER01	SUPSNAME	3	CHAR	N	14	0	2778	zvYae QvnPoBvv	A KtHieEsEcgjO	-
SUPPLIER01	SUPSHIPD	4	CHAR	N	6	0	2578	04660	000003	-
SUPPLIER01	SUPOINFO	5	CHAR	N	26	0	2711	zvYae QvnPoBvvKE	A KtHieEsEcgjOYc	-

Figure 9 (Part 4 of 5). Catalog Statistics for RTW Database

TRKOPRNS01	TRKTABLN	0	CHAR	N	8	0	1	TRKOPRNS	TRKOPRNS	-
TRKOPRNS01	TRKITEMN	1	CHAR	N	14	0	17000	ITE16999MNUMBR	ITE00002MNUMBR	-
TRKOPRNS01	TRKOPKEY	2	CHAR	N	5	0	2	TRKI2	TRKI1	-
TRKOPRNS01	TRKORDER	3	DECIMAL	N	5	0	1537			-
TRKOPRNS01	TRKDATE1	4	DECIMAL	N	3	0	1120	|		-
TRKOPRNS01	TRKDATE2	5	DECIMAL	N	3	0	672			-
TRKOPRNS01	TRKSFTG1	6	CHAR	N	4	0	1652	9985	330	-
TRKOPRNS01	TRKSFTG2	7	CHAR	N	4	0	752	9985	330	-
TRKOPRNS01	TRKSFTG3	8	CHAR	N	4	0	752	9985	330	-
TRKOPRNS01	TRKSFTH1	9	CHAR	N	4	0	752	9985	330	-
TRKOPRNS01	TRKSFTH2	10	CHAR	N	4	0	752	9985	330	-
TRKOPRNS01	TRKSFTH3	11	CHAR	N	4	0	752	9985	330	-
TRKOPRNS01	TRKPRVS1	12	CHAR	N	4	0	1652	9985	330	-
TRKOPRNS01	TRKPRVS2	13	CHAR	N	4	0	1652	9985	330	-
TRKOPRNS01	TRKPRVS3	14	CHAR	N	4	0	752	9985	330	-
TRKOPRNS01	TRKPRVS4	15	CHAR	N	4	0	752	9985	330	-
TRKOPRNS01	TRKPRVS5	16	CHAR	N	4	0	1652	9985	330	-
TRKOPRNS01	TRKPRVS6	17	CHAR	N	4	0	1652	9985	330	-
TRKOPRNS01	TRKPRYTD	18	DECIMAL	N	5	0	1537			-
TRKOPRNS01	TRKSPACD	19	CHAR	N	10	0	1685	ztzN DHMbY	ExqedEpHZ	-
TRKOPRNS01	TRKALTOP	20	CHAR	N	25	0	1216	ztzN DHMbYThSeAS	ADnrmInsaqQJMPWt	-
TRKOPRNS01	TRKOPCLS	21	CHAR	N	2	0	1296	zt	E	-
TRKOPRNS01	TRKMACNO	22	DECIMAL	N	11	0	1296	″		-
TRKOPRNS01	TRKTOOLN	23	DECIMAL	N	5	0	1537			-
TRKOPRNS01	TRKTOOLC	24	CHAR	N	15	0	1521	ztzN DHMbYThSeA	ExqedEpHZyRHYJ	-
TRKOPRNS01	TRKTOOLU	25	CHAR	N	5	0	1488	ztzN	Exqe	-
TRKOPRNS01	TRKTNUMB	26	DECIMAL	N	15	0	1915			-
TRKOPRNS01	TRKSETUC	27	CHAR	N	1	0	10	8	1	-
TRKOPRNS01	TRKSETUH	28	INTEGER	N	4	0	1537			-
TRKOPRNS01	TRKLABRH	29	INTEGER	N	4	0	1537			-
TRKOPRNS01	TRKMACHH	30	INTEGER	N	4	0	1537			-
TRKOPRNS01	TRKMOVET	31	INTEGER	N	4	0	1537			-
TRKOPRNS01	TRKSHRKF	32	DECIMAL	N	5	2	672			-
TRKOPRNS01	TRKENGCN	33	CHAR	N	4	0	1652	9985	330	-
TRKOPRNS01	TRKSTART	34	CHAR	N	6	0	1488	999199	330	-
TRKOPRNS01	TRKCOMPL	35	CHAR	N	6	0	1472	999199	330	-
TRKOPRNS01	TRKQCOMP	36	DECIMAL	N	9	0	1816	y p		-
TRKOPRNS01	TRKQSCRP	37	DECIMAL	N	9	0	1816	y p		-
TRKOPRNS01	TRKOPRNO	38	DECIMAL	N	11	0	1296	″		-
TRKOPRNS01	TRKSEQNO	39	DECIMAL	N	11	0	1296	″		-
TRKOPRNS01	TRKDESCR	40	CHAR	N	62	0	1456	ztzN DHMbYThSeAS	ExqedEpHZyRHYJC	-
TRKOPRNS01	TRKFILL1	41	CHAR	N	35	0	1374	ztzN DHMbYThSeAS	ExqedEpHZyRHYJC	-
VENDOR0001	VENTABLN	0	CHAR	N	8	0	1	VENDOR00	VENDOR00	-
VENDOR0001	VENVENDN	1	CHAR	N	6	0	200	VEN199	VEN002	-
VENDOR0001	VENDNAME	2	CHAR	N	23	0	200	zGOsdwtGJFMFLyLp	AKouIKJzeeYsrFXE	-
VENDOR0001	VENSHIPV	3	CHAR	N	1	0	10	8	1	-
VENDOR0001	VENFOBPT	4	CHAR	N	10	0	200	zGOsdwtGJF	AKouIKJzee	-
VENDOR0001	VENCOMMC	5	CHAR	N	2	0	200	zG	AK	-
VENDOR0001	VENTBUYN	6	DECIMAL	N	7	0	200	,	1	-
VENDOR0001	VENNODEL	7	INTEGER	N	4	0	188			-
VENDOR0001	VENNREJS	8	INTEGER	N	4	0	188			-
VENDOR0001	VENLASSD	9	DECIMAL	N	7	0	200	,	1	-
VENDOR0001	VENADTEL	10	CHAR	N	30	0	192	zGOsdwtGJFMFLyLp	AKouIKJzeeYsrFXE	-
VENDOR0001	VENFILL1	11	CHAR	N	4	0	200	zGOs	AKou	-
WKCENTER01	WKCTABLN	0	CHAR	N	8	0	1	WKCENTER	WKCENTER	-
WKCENTER01	WKCDEPTN	1	CHAR	N	3	0	88	099	003	-
WKCENTER01	WKCWKCEN	2	CHAR	N	5	0	500	WK499	WK002	-
WKCENTER01	WKCNMACH	3	DECIMAL	N	3	0	10			-
WKCENTER01	WKCNSHFT	4	DECIMAL	N	1	0	10			-
WKCENTER01	WKCHSHFT	5	SMALLINT	N	2	0	496	&c		-
WKCENTER01	WKCDSETH	6	SMALLINT	N	2	0	496	&c		-
WKCENTER01	WKCDMACH	7	SMALLINT	N	2	0	496	&c		-
WKCENTER01	WKCDLABH	8	SMALLINT	N	2	0	496	&c		-
WKCENTER01	WKCFILL1	9	CHAR	N	1	0	53	y	A	-

281 record(s) selected.

Figure 9 (Part 5 of 5). Catalog Statistics for RTW Database

A.3 Internal Benchmark/Database 1 (IB1)

IB1 is a set of 19 queries and the database which is associated with them. The database is 170MB in size, including the data and the indexes. There are 8 tables, ranging in size from 5 to 600K rows.

Following is a general description of the queries:

Figure 10. IB1 Query Descriptions

query number	txn/ds	rows returned	host vari-ables	tables	2-table predi-cates	1-table predi-cates	Group by	Order by	Aggre-gate
1	txn	1	2	1	2	0	n	n	n
2	ds	4	1	2	2	1	y	y	y
3	ds	1	2	2	3	1	n	n	y
4	ds	1	1	3	2	1	y	y	y
5	ds	2762	9	3	4	1	y	y	y
6	ds	1	2	3	2	2	n	n	y
7	ds	5	1	1	1	0	y	y	y
8	ds	44	4	9	4	8	n	y	n
9	ds	5	2	2	3	1	y	y	y
10	ds	1	5	1	5	0	n	n	y
11	ds	4	4	6	6	5	y	y	y
12	ds	2	3	8	5	7	y	y	y
13	ds	175	1	6	1	6	y	y	y
14	ds	3870	2	4	3	3	y	y	y
15	ds	22	3	6	2	4	y	y	y
16	txn	1	3	1	2	0	n	n	n
17	txn	1	2	1	2	0	n	n	n
18	txn	1	2	1	1	0	n	n	n
19	txn	1	4	1	0	0	n	n	n

- txn = OLTP transaction-type query
- ds = decision support query

Here is information extracted from the catalog tables:

```
==================================================================================================
select name, fid, card, npages, fpages, overflow from sysibm.systables where creator = 'USER' order by name

NAME               FID    CARD        NPAGES      FPAGES      OVERFLOW
------------------ ------ ----------- ----------- ----------- -----------
T1                      7       15000         681         682           0
T2                      9      600572       20886       20887           0
T3                      2          25           1           2           0
T4                      8      150000        4451        4452           0
T5                      4       20000         756         757           0
T6                      6       80000        3203        3204           0
T7                      3           5           1           2           0
T8                      5        1000          42          43           0

  8 record(s) selected.


==================================================================================================
select sum(npages), sum(fpages) from sysibm.systables where creator = 'USER'

1           2
----------- -----------
      30021       30029

  1 record(s) selected.


==================================================================================================
select name, tbname, uniquerule, nleaf, nlevels, firstkeycard,
       fullkeycard, clusterratio, clusterfactor, colcount
from sysibm.sysindexes where tbcreator = 'USER' order by tbname

NAME    TBNAME      UNIQUERULE NLEAF       NLEVELS FIRSTKEYCARD FULLKEYCARD CLUSTERRATIO CLUSTERFACTOR            COLCOUNT
------- ----------- ---------- ----------- ------- ------------ ----------- ------------ ------------------------ --------
I1      T1          U                   51       2        15000       15000           -1   +1.00000000000000E+000        1
I2      T1          U                   67       2           25       15000           -1   +3.42761366017180E-001        2
I3      T2          D                 1106       3       150000      150000           -1   +1.00000000000000E+000        1
I4      T2          D                  845       3        20000       20000           -1   +7.22805104832616E-004        1
I5      T2          D                  807       3         1000        1000           -1   +1.41697401696780E-002        1
I6      T2          D                  810       3         2526        2526           -1   +2.07146627657041E-002        1
I7      T2          D                 1730       3         2548      301920           -1   +4.53521389165858E-003        2
I8      T3          U                    1       1           25          25          100   -1.00000000000000E+000        2
I9      T3          U                    1       1           25          25          100   -1.00000000000000E+000        2
I10     T3          D                    1       1            5          25          100   -1.00000000000000E+000        3
I11     T4          U                  502       3       150000      150000           -1   +1.00000000000000E+000        1
I12     T4          D                  221       3        10000       10000           -1   +2.72760376230685E-003        1
I13     T4          D                  190       3         1000        1000           -1   +1.67709843420428E-002        1
I14     T4          U                  839       3         2406      150000           -1   +7.31712344296422E-003        3
I15     T4          U                 1305       3         2406      150000           -1   +7.31712344296422E-003        3
I16     T5          U                   67       2        20000       20000           -1   +1.00000000000000E+000        1
I17     T6          D                   27       2           50          50           -1   +2.22406983995011E-001        1
I18     T6          D                   31       2           25        1000           -1   +1.56932030762835E-002        2
I19     T7          U                  358       3        20000       80000           -1   +1.00000000000000E+000        2
I20     T7          D                  110       2         1000        1000           -1   +0.00000000000000E+000        1
I21     T8          U                    1       1            5           5          100   -1.00000000000000E+000        2
I22     T8          U                    1       1            5           5          100   -1.00000000000000E+000        2
I23     T9          U                    4       2         1000        1000           -1   +1.00000000000000E+000        1
I24     T9          U                    5       2           25        1000           -1   +3.52818371607515E-001        2

  24 record(s) selected.


==================================================================================================
select sum(nleaf) from sysibm.sysindexes where creator = 'USER'

1
-----------
       9080

  1 record(s) selected.
```

Figure 11 (Part 1 of 2). Catalog Statistics for IB1

===

select tbname, colno, coltype, nulls, length, scale, colcard, keyseq from sysibm.syscolumns where tbcreator = 'USER' order by tbname, colno

TBNAME	COLNO	COLTYPE	NULLS	LENGTH	SCALE	COLCARD	KEYSEQ
--------	------	--------	-----	------	------	-----------	------
T1	0	INTEGER	N	4	0	15000	-
T1	1	VARCHAR	N	25	0	15000	-
T1	2	VARCHAR	N	40	0	13607	-
T1	3	INTEGER	N	4	0	25	-
T1	4	CHAR	N	15	0	15000	-
T1	5	DOUBLE	N	8	0	13923	-
T1	6	CHAR	N	10	0	5	-
T1	7	VARCHAR	N	117	0	15000	-
T2	0	INTEGER	N	4	0	150000	-
T2	1	INTEGER	N	4	0	20000	-
T2	2	INTEGER	N	4	0	1000	-
T2	3	INTEGER	N	4	0	7	-
T2	4	DOUBLE	N	8	0	50	-
T2	5	DOUBLE	N	8	0	99605	-
T2	6	DOUBLE	N	8	0	11	-
T2	7	DOUBLE	N	8	0	9	-
T2	8	CHAR	N	1	0	3	-
T2	9	CHAR	N	1	0	2	-
T2	0	DATE	N	4	0	2526	-
T2	1	DATE	N	4	0	2511	-
T2	12	DATE	N	4	0	2548	-
T2	13	CHAR	N	25	0	4	-
T2	14	CHAR	N	10	0	7	-
T2	15	VARCHAR	N	44	0	600572	-
T3	0	INTEGER	N	4	0	25	-
T3	1	CHAR	N	25	0	25	-
T3	2	INTEGER	N	4	0	5	-
T3	3	VARCHAR	Y	152	0	25	-
T4	0	INTEGER	N	4	0	150000	-
T4	1	INTEGER	N	4	0	10000	-
T4	2	CHAR	N	1	0	3	-
T4	3	DOUBLE	N	8	0	99605	-
T4	4	DATE	N	4	0	2406	-
T4	5	CHAR	N	15	0	5	-
T4	6	CHAR	N	15	0	1000	-
T4	7	INTEGER	N	4	0	1	-
T4	8	VARCHAR	N	79	0	99605	-
T5	0	INTEGER	N	4	0	20000	-
T5	1	VARCHAR	N	55	0	20000	-
T5	2	CHAR	N	25	0	5	-
T5	3	CHAR	N	10	0	25	-
T5	4	VARCHAR	N	25	0	148	-
T5	5	INTEGER	N	4	0	50	-
T5	6	CHAR	N	10	0	40	-
T5	7	DOUBLE	N	8	0	2611	-
T5	8	VARCHAR	N	23	0	17502	-
T6	0	INTEGER	N	4	0	20000	-
T6	1	INTEGER	N	4	0	1000	-
T6	2	INTEGER	N	4	0	10831	-
T6	3	DOUBLE	N	8	0	60307	-
T6	4	VARCHAR	N	199	0	80000	-
T7	0	INTEGER	N	4	0	5	-
T7	1	CHAR	N	25	0	5	-
T7	2	VARCHAR	Y	152	0	5	-
T8	0	INTEGER	N	4	0	1000	-
T8	1	CHAR	N	25	0	1000	
T8	2	VARCHAR	N	40	0	1000	-
T8	3	INTEGER	N	4	0	25	-
T8	4	CHAR	N	15	0	1000	-
T8	5	DOUBLE	N	8	0	1000	-
T8	6	VARCHAR	N	101	0	1000	-

61 record(s) selected.

Figure 11 (Part 2 of 2). Catalog Statistics for IB1

A.4 Internal Database 2 (ID2)

The ID2 database consists of 1 table containing 9 million rows and 16 columns. The total size of the table with no indices created on it is approximately 1.21 GB. In the cases where only 6 million rows were loaded, the size of the database is approximately 800 MB.

Here are details about the table as illustrated by catalog statistics obtained after a RUNSTATS was performed:

```
select name, fid, card, npages, fpages, overflow from sysibm.systables where creator = 'GEORGE' order by name

NAME               FID    CARD        NPAGES      FPAGES      OVERFLOW
------------------ ------ ----------- ----------- ----------- -----------
T2                      4     9000000      313033      313034           0

  1 record(s) selected.

==========================================================================================
select tbname, colno, coltype, nulls, length, scale, colcard, keyseq from sysibm.syscolumns where tbcreator = 'GEORGE' order by tbname, colno

TBNAME      COLNO  COLTYPE  NULLS LENGTH SCALE  COLCARD     KEYSEQ
----------- ------ -------- ----- ------ ------ ----------- ------
T2               0 INTEGER  N          4      0     2250078      -
T2               1 INTEGER  N          4      0     9000000      -
T2               2 INTEGER  N          4      0       40496      -
T2               3 INTEGER  N          4      0           7      -
T2               4 DOUBLE   N          8      0          50      -
T2               5 DOUBLE   N          8      0     9000000      -
T2               6 DOUBLE   N          8      0          11      -
T2               7 DOUBLE   N          8      0           9      -
T2               8 CHAR     N          1      0           3      -
T2               9 CHAR     N          1      0           2      -
T2              10 DATE     N          4      0        2544      -
T2              11 DATE     N          4      0        2511      -
T2              12 DATE     N          4      0        2544      -
T2              13 CHAR     N         25      0           4      -
T2              14 CHAR     N         10      0           7      -
T2              15 VARCHAR  N         44      0     9000000      -

  16 record(s) selected.
```

Figure 12. Catalog Statistics for ID2

A.5 Internal Database 3 (ID3)

The ID3 database is a very simple database that was created with the following commands:

```
db2start
db2 "create db ID3 user tablespace managed by database using (device '/dev/rperfraw1.500mb' 131072,
     device '/dev/rperfraw4.500mb' 131072,device '/dev/rperfraw7.500mb' 131072,
     device '/dev/rperfraw8.500mb' 131072,device '/dev/rperfraw9.500mb' 131072,
     device '/dev/rperfraw10.500mb' 131072)"
db2 update db cfg for ID3 using util_heap_sz 50000
db2 update db cfg for ID3 using num_ioservers 10
db2 update db cfg for ID3 using num_iocleaners 10
db2 update db cfg for ID3 using stat_heap_sz 25000
db2 update db cfg for ID3 using buffpage 70000
db2 update db cfg for ID3 using sortheap 15000
db2stop
db2start
db2 connect to ID3
db2 "create temporary tablespace tempspace2 managed by system using ('/db2.sys1')"
db2 connect reset
db2 connect to ID3
db2 "CREATE TABLE t1 (FIELD0 INT NOT NULL, FIELD1 INT NOT NULL, FIELD2 DECIMAL (16,8) NOT NULL,
                     FIELD3 DECIMAL (16,8) NOT NULL, FIELD4 CHAR(10) NOT NULL, FIELD5 CHAR(10) NOT NULL,
                     FIELD6 VARCHAR(100) NOT NULL, FIELD7 VARCHAR(100) NOT NULL)"
db2 "create index i1 on t1 (field0)"
db2 "create index i2 on t1 (field1)"
db2 "load from /perf2.2g/input1M.del of del insert into t1"
db2 commit work
db2 "reorgchk on table user"
db2 connect reset
db2stop
```

Figure 13. script for creating ID3

In various places throughout this report we used this database in different sizes. The script above was used to create ID3 with 1 million rows, but sometimes it was created with fewer rows. The REORGCHK command forces a RUNSTATS to be executed.

Here are details about the table and indexes as illustrated by catalog statistics obtained after a RUNSTATS was performed:

```
====================================================================================================
connect to ID3

   Database Connection Information

 Database product       = DB2/6000 2.1.0
 SQL authorization ID   = VALENTIN
 Local database alias   = ID3


====================================================================================================
select name, fid, card, npages, fpages, overflow from sysibm.systables where creator = 'VALENTIN' order by name

NAME               FID    CARD        NPAGES      FPAGES      OVERFLOW
------------------ ------ ----------- ----------- ----------- -----------
T1                      4     1000000       29585       29585           0

  1 record(s) selected.


====================================================================================================
select sum(npages), sum(fpages) from sysibm.systables where creator = 'VALENTIN'

1           2
----------- -----------
      29585       29585

  1 record(s) selected.


====================================================================================================
select name, tbname, uniquerule, nleaf, nlevels, firstkeycard, fullkeycard, clusterratio, clusterfactor, substr(colnames,1,30), colcount from sysibm.sysindexes where tbcreator = 'VALENTIN'
       order by tbname

NAME               TBNAME             UNIQUERULE NLEAF       NLEVELS FIRSTKEYCARD FULLKEYCARD CLUSTERRATIO CLUSTERFACTOR            10                             COLCOUNT
------------------ ------------------ ---------- ----------- ------- ------------ ----------- ------------ ------------------------ ------------------------------ --------
I1                 T1                 D                 1405       3        32768       32768            3  -1.00000000000000E+000 +FIELD0                               1
I2                 T1                 D                 3345       3      1000000     1000000          100  -1.00000000000000E+000 +FIELD1                               1

  2 record(s) selected.


====================================================================================================
select sum(nleaf) from sysibm.sysindexes where creator = 'VALENTIN'

1
-----------
       4750

  1 record(s) selected.


====================================================================================================
select tbname, name, colno, coltype, nulls, length, scale, colcard, high2key, low2key, keyseq from sysibm.syscolumns where tbcreator = 'VALENTIN' order by tbname, colno

TBNAME             NAME               COLNO  COLTYPE  NULLS LENGTH SCALE  COLCARD     HIGH2KEY                         LOW2KEY                          KEYSEQ
------------------ ------------------ ------ -------- ----- ------ ------ ----------- -------------------------------- -------------------------------- ------
T1                 FIELD0                  0 INTEGER  N          4      0       45426 32766                            1                                     -
T1                 FIELD1                  1 INTEGER  N          4      0      996050 999998                           1                                     -
T1                 FIELD2                  2 DECIMAL  N         16      8      796840 +00032767.77600000               +00000000.11344000                    -
T1                 FIELD3                  3 DECIMAL  N         16      8      896445 +00999998.99999800               +00000001.10000000                    -
T1                 FIELD4                  4 CHAR     N         10      0     1000000 'jjjjjifgfa'                     'aaaaabhcga'                          -
T1                 FIELD5                  5 CHAR     N         10      0      996050 'aaaaacexhm'                     'aaaaaaaaab'                          -
T1                 FIELD6                  6 VARCHAR  N        100      0      896445 'zzzzheckmruqtnxszexutvwcctaelqn' 'a'                                  -
T1                 FIELD7                  7 VARCHAR  N        100      0     1000000 'zzzz'                           'aaaab'                               -

  8 record(s) selected.


====================================================================================================
```

Figure 14. Catalog Statistics for ID3

A.6 Customer Benchmark 1

A.6.1 CB1 Query Descriptions

Figure 15 (Page 1 of 12). CB1 Query Descriptions	
Query Number	**Description**
1	Rows Returned = 1
	How many coverages are there?
	SELECT COUNT(*) FROM TERA.COVR
2	Rows Returned = 1
	How many distinct policies are there on COVR?
	SELECT COUNT(DISTINCT POLN) FROM TERA.COVR
3	Rows Returned = 1
	How many Living Life policies and the sum of their official amounts have had coverages added in 1986?
	SELECT COUNT(DISTINCT TERA.PLCY.POLN), SUM(TERA.COVR.OFCA) FROM TERA.PLCY,TERA.COVR,TERA.EVEN WHERE TERA.PLCY.POLN = TERA.EVEN.POLN AND TERA.PLCY.POLN = TERA.COVR.POLN AND TERA.EVEN.EXTX = 'ADD BASC' AND TERA.EVEN.DPDT >= 19860901 AND TERA.COVR.CAMC = 'URKC' AND TERA.COVR.CVTY = 'B' AND TERA.PLCY.PLNA = 'LIVING-LIFE '

<table>
<tr><th colspan="2">Figure 15 (Page 2 of 12). CB1 Query Descriptions</th></tr>
<tr><th>Query Number</th><th>Description</th></tr>
<tr><td rowspan="3">4</td><td>Rows Returned = 2</td></tr>
<tr><td>What policies are in PENDING or ISSUED status that have coverages greater than $500,000?</td></tr>
<tr><td>SELECT
TERA.BRAN.REGN,TERA.PLCY.BRAN,TERA.CLBA.LENM,TERA.PLCY.POLN,
((19860901-BIRD) / 10000),TERA.COVR.OFCA,TERA.INAP.ARCD,
TERA.COVR.CSTA,TERA.PLCY.PLNA
FROM
TERA.PLCY,TERA.INAP,TERA.COVR,TERA.CLBA,TERA.BRAN,TERA.COIN,
TERA.APCO
WHERE TERA.PLCY.POLN = TERA.INAP.POLN AND
TERA.PLCY.POLN = TERA.COVR.POLN AND
TERA.PLCY.POLN = TERA.INAP.POLN AND
TERA.APCO.POLN = TERA.PLCY.POLN AND
TERA.APCO.CVID = TERA.COVR.CVID AND
TERA.APCO.PKNO = TERA.INAP.PKNO AND
TERA.COIN.POLN = TERA.PLCY.POLN AND
TERA.COIN.CVID = TERA.COVR.CVID AND
TERA.CLBA.CLID = TERA.COIN.CLID AND
TERA.BRAN.BRAN = TERA.PLCY.BRAN AND
TERA.PLCY.PACD = '99' AND
TERA.PLCY.CWAI = 'Y' AND
TERA.PLCY.PLNA = 'LIVING-LIFE' AND
TERA.COVR.CAMC = 'URKC' AND
TERA.COVR.CVTY = 'B' AND
TERA.COVR.OFCA >= 500000 AND
(TERA.COVR.CSTA = 'PENDG' OR TERA.COVR.CSTA = 'ISSUD')
ORDER BY
TERA.BRAN.REGN,TERA.PLCY.POLN;</td></tr>
<tr><td rowspan="3">5</td><td>Rows Returned = 3,021</td></tr>
<tr><td>What Living Life policies have coverages greater than $200,000?</td></tr>
<tr><td>SELECT TERA.PLCY.BRAN,TERA.CMAC.SURI,TERA.PLCY.POLN,TERA.COVR.CSTA,
TERA.INAP.ARCD,TERA.CLBA.LENM,TERA.CLBA.BIRD
FROM TERA.PLCY,TERA.COVR,TERA.INAP,TERA.CLBA,TERA.CAGD,TERA.PLON,
TERA.CMAC
WHERE TERA.PLCY.POLN = TERA.COVR.POLN AND
TERA.PLCY.POLN = TERA.INAP.POLN AND
TERA.PLON.POLN = TERA.PLCY.POLN AND
TERA.PLCY.POLN = TERA.CAGD.POLN AND
TERA.PLON.CLID = TERA.CLBA.CLID AND
TERA.CAGD.POLN = TERA.PLCY.POLN AND
TERA.CAGD.CMAN = TERA.CMAC.CMAN AND
TERA.PLCY.PACD = '99' AND
TERA.COVR.CVTY = 'B' AND
TERA.COVR.OFCA >= 200000 AND
TERA.COVR.CAMC = 'URKC'
ORDER BY TERA.PLCY.BRAN,TERA.CMAC.SURI,TERA.PLCY.POLN</td></tr>
</table>

Figure 15 (Page 3 of 12). CB1 Query Descriptions	
Query Number	**Description**
6	Rows Returned = 868
	What policies have extras and what is their associated official amounts?
	SELECT TERA.BRAN.REGN,TERA.PLCY.BRAN,TERA.PLCY.POLN,TERA.CMAC.SURI, SUM(B.OFCA),TERA.CLBA.LENM,A.ECRT,A.IMPC FROM TERA.PLCY,TERA.COVR A,TERA.COVR B,TERA.BRAN,TERA.PLON,TERA.CLBA, TERA.CMAC,TERA.CAGD WHERE TERA.PLCY.POLN = A.POLN AND TERA.PLCY.POLN = B.POLN AND TERA.PLCY.BRAN = TERA.BRAN.BRAN AND TERA.PLON.POLN = TERA.PLCY.POLN AND TERA.PLCY.POLN = TERA.CAGD.POLN AND TERA.PLON.CLID = TERA.CLBA.CLID AND TERA.CAGD.CMAN = TERA.CMAC.CMAN AND TERA.PLCY.PSTA = 'INFOR' AND A.CVTY = 'E' AND A.CSTA = ' ' AND B.CVTY = 'B' AND B.CSTA = ' ' AND B.CAMC = 'URKC' GROUP BY TERA.BRAN.REGN,TERA.PLCY.BRAN,TERA.PLCY.POLN,TERA.CMAC.SURI, TERA.CLBA.LENM,A.ECRT,A.IMPC ORDER BY TERA.BRAN.REGN,TERA.PLCY.BRAN,TERA.PLCY.POLN,TERA.CMAC.SURI, TERA.CLBA.LENM,A.ECRT,A.IMPC;
7	Rows Returned = 236,017
	Listing of all in-force policies, by region, by branch, by service agent with their associated official amounts.
	SELECT TERA.BRAN.REGN,TERA.CMAC.BRAN,TERA.PLCY.SAID, TERA.PLON.CLID,TERA.CLBA.LENM,TERA.PLCY.POLN, SUM(TERA.COVR.OFCA) FROM TERA.BRAN,TERA.COVR,TERA.PLCY,TERA.PLON,TERA.CLBA, TERA.CMAC WHERE TERA.PLCY.POLN=TERA.PLCY.POLN AND TERA.PLCY.POLN=TERA.COVR.POLN AND TERA.PLCY.POLN=TERA.PLON.POLN AND TERA.PLON.CLID=TERA.CLBA.CLID AND TERA.PLCY.SAID=TERA.CMAC.CMAN AND TERA.CMAC.BRAN=TERA.BRAN.BRAN AND TERA.PLCY.BRAN=TERA.BRAN.BRAN AND TERA.PLCY.PSTA='INFOR' AND TERA.COVR.CSTA=' ' AND TERA.COVR.CVTY='B' GROUP BY TERA.BRAN.REGN,TERA.CMAC.BRAN,TERA.PLCY.SAID, TERA.PLON.CLID,TERA.CLBA.LENM,TERA.PLCY.POLN ORDER BY TERA.BRAN.REGN,TERA.CMAC.BRAN,TERA.PLCY.SAID, TERA.PLON.CLID,TERA.CLBA.LENM,TERA.PLCY.POLN ;

Figure 15 (Page 4 of 12). CB1 Query Descriptions

Query Number	Description
8	Rows Returned = 3,362
	List of policies with official amount and associated account protector.
	SELECT POLN, SUM(OFCA),SUM(OFCA-OFCA) FROM TERA.COVR WHERE CAMC = 'URKC' AND CSTA = ' ' AND CVTY = 'B' AND POLN IN (SELECT DISTINCT POLN FROM TERA.COVR WHERE CAMC = 'CWWC' AND CSTA = ' ' AND CVTY = 'B') GROUP BY POLN UNION SELECT POLN, SUM(OFCA-OFCA) ,SUM(OFCA) FROM TERA.COVR WHERE CAMC = 'CWWC' AND CSTA = ' ' AND CVTY = 'B' GROUP BY POLN ;
9	Rows Returned = 1,388
	Print all policies with greater than 50 events.
	SELECT BRAN,POLN,COUNT(*) FROM TERA.EVEN GROUP BY BRAN,POLN HAVING COUNT(*) > 50 ORDER BY BRAN,POLN ;
10	Rows Returned = 2,070
	Select all policies the Head Office placed in 1986.
	SELECT TERA.COVR.CVTY,TERA.BRAN.REGN, TERA.PLCY.BRAN,TERA.COVR.POLN,TERA.INAP.HBPI FROM TERA.BRAN,TERA.PLCY,TERA.COVR,TERA.INAP WHERE TERA.COVR.CVTY = 'B' AND TERA.INAP.HBPI = 'H' AND TERA.PLCY.BRAN = TERA.BRAN.BRAN AND TERA.PLCY.POLN = TERA.COVR.POLN AND TERA.PLCY.POLN = TERA.INAP.POLN AND TERA.COVR.CSCD >= 19860901 AND TERA.COVR.CSTA = ' ' GROUP BY TERA.COVR.CVTY,TERA.BRAN.REGN,TERA.PLCY.BRAN, TERA.COVR.POLN,TERA.INAP.HBPI ORDER BY TERA.COVR.CVTY,TERA.BRAN.REGN,TERA.PLCY.BRAN, TERA.COVR.POLN,TERA.INAP.HBPI;

Figure 15 (Page 5 of 12). CB1 Query Descriptions	
Query Number	**Description**
11	Rows Returned = 529,309
	List all policies and coverages between a certain policy range.
	SELECT TERA.PLCY.POLN,CVID,CAMC,CVTY,CVCD,PACD FROM TERA.COVR,TERA.PLCY WHERE TERA.COVR.POLN = TERA.PLCY.POLN AND TERA.PLCY.POLN BETWEEN ′4200000′ AND ′4499999′;
12	Rows Returned = 519
	Select all coverages for certain policies.
	SELECT * FROM TERA.COVR WHERE POLN IN (′4440572′,′4452571′,′4454464′,′4440671′, ′4440574′,′4452572′,′4454465′,′4440772′, ′4440575′,′4452573′,′4454466′,′4440872′, ′4440576′,′4452574′,′4454467′,′4440972′, ′4440577′,′4452575′,′4454468′,′4441072′, ′4440578′,′4452576′,′4454469′,′4441172′, ′4440579′,′4452577′,′4454475′,′4441272′, ′4440774′,′4452578′,′4454485′,′4440692′, ′4447572′,′4452579′,′4454495′,′4440872′, ′4440773′,′4452581′,′4454565′,′4440172′, ′4440774′,′4452582′,′4454765′,′4440072′, ′4440775′,′4452584′,′4454865′,′4440622′);
13	Rows Returned = 624,473
	Select all policies which have a declined coverage.
	SELECT POLN,BRAN,PSTA FROM TERA.PLCY WHERE EXISTS (SELECT DISTINCT POLN FROM TERA.COVR WHERE TERA.COVR.CSTA = ′DECL′) ;
14	N/A - Update mass policies.
15	N/A - Produce a listing of all policies for all service agents, by region, by branch.
16	Rows Returned = 597,382
	Produce a listing of all policies by policyowner.
	SELECT TERA.CLBA.CLID,TERA.PLCY.POLN,TERA.PLON.OWTY,TERA.CLBA.LENM FROM TERA.PLCY,TERA.PLON,TERA.CLBA WHERE TERA.PLCY.POLN = TERA.PLON.POLN AND TERA.CLBA.CLID = TERA.PLON.CLID ORDER BY TERA.CLBA.CLID ;

Figure 15 (Page 6 of 12). CB1 Query Descriptions

Query Number	Description
17	Rows Returned = 1,549
	Produce a listing of all maturity pending policies.
	SELECT REGN,TERA.BRAN.BRAN,SURI,POLN FROM TERA.PLCY,TERA.BRAN WHERE MATP = 'Y' AND TERA.PLCY.BRAN = TERA.BRAN.BRAN ORDER BY REGN,TERA.BRAN.BRAN ;
18	Rows Returned = 23
	What are the count of contract status issued by underwriter?
	SELECT REGN,UWID,CSTA,COUNT(*) FROM TERA.EVEN,TERA.BRAN WHERE EXTX = 'FINALDSP' AND TERA.BRAN.BRAN = TERA.EVEN.BRAN GROUP BY REGN,UWID,CSTA ORDER BY REGN,UWID,CSTA ;
19	Rows Returned = 37,195
	List of all policies with unusual frequencies sorted in postal code order.
	SELECT TERA.PLON.POLN,TERA.CLBA.LENM,FLMA,SLMA,TLMA,POZI FROM TERA.PLON,TERA.BLAR,TERA.CLBA,TERA.CLAD WHERE TERA.BLAR.FOSA > 0 AND TERA.PLON.POLN = TERA.BLAR.POLN AND TERA.PLON.CLID = TERA.CLBA.CLID AND TERA.CLAD.CLID = TERA.PLON.CLID AND TERA.CLAD.CAID = TERA.PLON.CAID ORDER BY TERA.CLAD.POZI ;
20	Rows Returned = 171
	Count of insured type by current residence.
	SELECT CRES,INTY,COUNT(*) FROM TERA.CLAD,TERA.COIN,TERA.CIAR WHERE TERA.COIN.POLN=TERA.CIAR.POLN AND TERA.COIN.CVID=TERA.CIAR.CVID AND TERA.COIN.CLID=TERA.CIAR.CLID AND TERA.CIAR.CLID=TERA.CLAD.CLID AND TERA.CIAR.CAID=TERA.CLAD.CAID GROUP BY CRES,INTY ORDER BY CRES,INTY ;

Figure 15 (Page 7 of 12). CB1 Query Descriptions	
Query Number	**Description**
21	Rows Returned = 465
	Produce a listing of all policyholders and policies who have a contract language not = EN or FR.
	`SELECT TERA.BRAN.REGN,TERA.PLCY.BRAN,TERA.CLBA.CLID,TERA.CLBA.LENM, TERA.PLCY.POLN,TERA.CLAD.CRLG FROM TERA.BRAN,TERA.PLCY,TERA.CLBA,TERA.PLON,TERA.CLAD WHERE TERA.PLCY.CNCD = 'C' AND TERA.PLCY.PSTA = 'INFOR' AND TERA.PLCY.POLN = TERA.PLON.POLN AND TERA.PLON.CLID = TERA.CLBA.CLID AND TERA.BRAN.BRAN = TERA.PLCY.BRAN AND TERA.CLAD.CLID = TERA.PLON.CLID AND TERA.CLAD.CAID = TERA.PLON.CAID AND TERA.CLAD.CRLG ¬= 'EN' AND TERA.CLAD.CRLG ¬= 'FR' ORDER BY TERA.BRAN.REGN,TERA.PLCY.BRAN,TERA.CLBA.CLID ;`
22	Rows Returned = 198
	What is the average account balance for those agents whose account balance is >0, <0 and =0?
	`SELECT COTC,ASTC,AVG(CABL),COUNT(*),MAX(CABL) FROM TERA.CMAC WHERE CABL > 0 GROUP BY COTC,ASTC UNION SELECT COTC,ASTC,AVG(CABL),COUNT(*),MIN(CABL) FROM TERA.CMAC WHERE CABL < 0 GROUP BY COTC,ASTC UNION SELECT COTC,ASTC,AVG(CABL),COUNT(*),MAX(CABL) FROM TERA.CMAC WHERE CABL = 0 GROUP BY COTC,ASTC ;`
23	Rows Returned = 1
	How many distinct policies have no coverage type 'Z'?
	`SELECT COUNT(DISTINCT POLN) FROM TERA.COVR WHERE CVTY ¬= 'Z' ;`

Figure 15 (Page 8 of 12). CB1 Query Descriptions	
Query Number	**Description**
24 - delete (CCTT)	Produce a list of all policies in MAILD coverage status.
	SELECT REGN,TERA.PLCY.POLN,LENM,TERA.PLCY.BRAN, TERA.CMAC.SURI,TRCC,CSTA,TERA.COVR.CVID,LPCD,CSCD,CVTY FROM TERA.BRAN,TERA.PLCY,TERA.COVR,TERA.CIAR,TERA.CMAC,TERA.CLBA, TERA.CCTT,TERA.CAGD WHERE TERA.PLCY.BRAN = TERA.BRAN.BRAN AND TERA.PLCY.POLN = TERA.COVR.POLN AND TERA.PLCY.POLN = TERA.CIAR.POLN AND TERA.PLCY.POLN = TERA.CAGD.POLN AND TERA.COVR.POLN = TERA.CIAR.POLN AND TERA.COVR.POLN = TERA.CAGD.POLN AND TERA.COVR.CVID = TERA.CIAR.CVID AND TERA.CIAR.CLID = TERA.CLBA.CLID AND TERA.CAGD.CMAN = TERA.CMAC.CMAN AND TERA.COVR.CVCD = TERA.CCTT.CVCD AND CSTA = 'MAILD' AND TERA.COVR.CVTY IN ('A', 'B', 'G', 'P') ORDER BY REGN,TERA.PLCY.POLN,TERA.PLCY.BRAN,TERA.CMAC.SURI ;
25	Rows Returned = 1,546
	Outstanding policies which are not yet placed.
	SELECT DISTINCT REGN,TERA.PLCY.POLN,LPCD,LENM,TERA.CIAR.CLID, TERA.PLCY.BRAN,TERA.INAP.UWID,CSTA,PACD FROM TERA.BRAN,TERA.PLCY,TERA.COVR,TERA.CIAR,TERA.INAP,TERA.CLBA WHERE TERA.PLCY.BRAN = TERA.BRAN.BRAN AND TERA.PLCY.POLN = TERA.COVR.POLN AND TERA.PLCY.POLN = TERA.CIAR.POLN AND TERA.PLCY.POLN = TERA.INAP.POLN AND TERA.COVR.POLN = TERA.CIAR.POLN AND TERA.COVR.POLN = TERA.INAP.POLN AND TERA.COVR.CVID = TERA.CIAR.CVID AND TERA.CIAR.CLID = TERA.CLBA.CLID AND TERA.INAP.PACS = 'ACTVE' AND CSTA IN ('ISSUD', 'PENDG', 'MAILD') ORDER BY REGN,TERA.PLCY.BRAN,TERA.PLCY.POLN,TERA.INAP.UWID ;
26	Rows Returned = 12,956
	Yearly placed statistics.
	SELECT TERA.PLCY.BRAN,CVTY,HBPI,CAMC,CSTA,PACD,CSCD FROM TERA.PLCY,TERA.COVR ,TERA.INAP WHERE TERA.PLCY.POLN = TERA.COVR.POLN AND TERA.PLCY.POLN = TERA.INAP.POLN AND TERA.COVR.POLN = TERA.INAP.POLN AND CVTY IN ('B', 'P') AND CSTA = ' ' AND TERA.COVR.IBDT >= 19860101 GROUP BY TERA.PLCY.BRAN,CVTY,HBPI,CAMC,CSTA,PACD,CSCD ;

<table>
<tr><td colspan="2">Figure 15 (Page 9 of 12). CB1 Query Descriptions</td></tr>
<tr><th>Query Number</th><th>Description</th></tr>
<tr><td rowspan="3">27</td><td>Rows Returned = 19,235</td></tr>
<tr><td>Time placement report.</td></tr>
<tr><td>SELECT REGN,EXTX,TERA.COVR.OFCA,TERA.PLCY.POLN,TERA.EVEN.DPDT,
TERA.COVR.CVTY,TERA.INAP.ARCD,TERA.INAP.MALD,PACD,CAMC

FROM TERA.BRAN,TERA.PLCY,TERA.COVR,TERA.EVEN,TERA.INAP,TERA.APCO

WHERE TERA.BRAN.BRAN = TERA.PLCY.BRAN
AND TERA.PLCY.POLN = TERA.COVR.POLN
AND TERA.PLCY.POLN = TERA.EVEN.POLN
AND TERA.PLCY.POLN = TERA.INAP.POLN
AND TERA.COVR.POLN = TERA.EVEN.POLN
AND TERA.COVR.POLN = TERA.INAP.POLN
AND TERA.COVR.CVID = TERA.EVEN.CVID
AND TERA.PLCY.POLN = TERA.APCO.POLN
AND TERA.APCO.CVID = TERA.COVR.CVID
AND TERA.INAP.PKNO = TERA.APCO.PKNO
AND TERA.PLCY.LPCD >= 19860101
AND TERA.EVEN.DPDT >= 19860101
AND TERA.INAP.ARCD ¬= 0
AND TERA.INAP.MALD ¬= 0
AND TERA.PLCY.PACD IN ('99','39')
AND TERA.COVR.CVTY = 'B'
AND TERA.COVR.CAMC IN ('URKC','DIRC')
AND TERA.EVEN.EXTX = 'MAILCOVR'
ORDER BY REGN,TERA.PLCY.POLN ;</td></tr>
<tr><td rowspan="2">28 - delete
(CCTT)</td><td>Policies reported as being placed but are not yet in INFORCE status.</td></tr>
<tr><td>SELECT REGN,LPCD,TERA.PLCY.BRAN,TERA.COVR.POLN,LENM,
TERA.CIAR.CLID,TERA.COVR.CVID,TERA.CCTT.TRCC,CSTA,CVTY,HBPI
FROM TERA.BRAN,TERA.COVR,TERA.INAP,TERA.CLBA,TERA.CIAR,TERA.PLCY,
TERA.CCTT
WHERE TERA.BRAN.BRAN = TERA.PLCY.BRAN AND
TERA.COVR.POLN = TERA.PLCY.POLN AND
TERA.COVR.POLN = TERA.INAP.POLN AND
TERA.COVR.POLN = TERA.CIAR.POLN AND
TERA.CIAR.CLID = TERA.CLBA.CLID AND
TERA.INAP.POLN = TERA.PLCY.POLN AND
TERA.CIAR.POLN = TERA.PLCY.POLN AND
TERA.CIAR.CVID = TERA.COVR.CVID AND
TERA.COVR.CVCD = TERA.CCTT.CVCD AND
TERA.INAP.PACS = 'ACTVE' AND
TERA.INAP.HBPI = 'H' AND
CVTY IN ('A','B','G','P') AND
TERA.COVR.CVCD NOT IN ('71001','71002','71003','04100') AND
(TERA.COVR.CVCD >= '12000' OR TERA.COVR.CVCD <= '61999') AND
CSTA IN ('PENDG','ISSUD','MAILD')
ORDER BY
REGN,LPCD,TERA.PLCY.BRAN,TERA.COVR.POLN ;</td></tr>
</table>

Figure 15 (Page 10 of 12). CB1 Query Descriptions

Query Number	Description
29	Rows Returned = 0
	Listing of all ManuLife policies in ISSUED status.
	SELECT DISTINCT REGN,TERA.PLCY.BRAN,TERA.PLCY.POLN,LENM, TERA.CMAC.SURI,TERA.CMAC.CMAN,EXTX,CSTA FROM TERA.BRAN,TERA.PLCY,TERA.CLBA,TERA.CIAR, TERA.EVEN,TERA.CAGD,TERA.CMAC WHERE TERA.BRAN.BRAN = TERA.PLCY.BRAN AND TERA.PLCY.POLN = TERA.EVEN.POLN AND TERA.PLCY.POLN = TERA.CIAR.POLN AND TERA.PLCY.POLN = TERA.CAGD.POLN AND TERA.CIAR.CLID = TERA.CLBA.CLID AND TERA.CAGD.CMAN = TERA.CMAC.CMAN AND TERA.EVEN.CVID = TERA.CIAR.CVID AND TERA.EVEN.PKNO = TERA.CAGD.PKNO AND TERA.PLCY.PSCD = 'MLREG' AND TERA.PLCY.PACD = '39' AND ((TERA.EVEN.EXTX = 'ADD BASC') OR (TERA.EVEN.EXTX = 'ISSUCOVR') OR (TERA.EVEN.CSTA = ' ' AND TERA.EVEN.EXTX = 'FINALDSP')) AND TERA.BRAN.BRAN IN ('MTORN', 'MTORA', 'MTORC', 'MOSH ', 'MVAN', 'MTORS', 'MTORB', 'MTORY', 'MISH ', 'MVANB') ORDER BY REGN,TERA.PLCY.BRAN,TERA.CMAC.SURI,TERA.PLCY.POLN ;

Figure 15 (Page 11 of 12). CB1 Query Descriptions

Query Number	Description
30	Rows Returned = 404
	List of all declined (DECL) policies.
	SELECT REGN,TERA.PLCY.BRAN,TERA.PLCY.POLN, LENM,TERA.CMAC.SURI,OFCA,DNRC FROM TERA.BRAN,TERA.PLCY,TERA.CLBA,TERA.COVR,TERA.CAGD, TERA.APCO,TERA.PLON,TERA.CMAC WHERE TERA.COVR.CSTA = ′DECL′ AND TERA.COVR.CAMC = ′URKC′ AND TERA.COVR.CVTY = ′B′ AND TERA.BRAN.BRAN = TERA.PLCY.BRAN AND TERA.PLCY.POLN = TERA.COVR.POLN AND TERA.PLCY.POLN = TERA.APCO.POLN AND TERA.COVR.CVID = TERA.APCO.CVID AND TERA.PLCY.POLN = TERA.PLON.POLN AND TERA.APCO.POLN = TERA.PLCY.POLN AND TERA.PLCY.POLN = TERA.CAGD.POLN AND TERA.PLON.CLID = TERA.CLBA.CLID AND TERA.CAGD.CMAN = TERA.CMAC.CMAN ORDER BY REGN,TERA.PLCY.BRAN,TERA.PLCY.POLN ;
31	Rows Returned = 3,061
	SELECT DISTINCT TERA.PLCY.POLN,BRAN,PSTA FROM TERA.PLCY,TERA.COVR WHERE TERA.PLCY.POLN = TERA.COVR.POLN AND TERA.COVR.CSTA = ′DECL′ ;
32	Rows Returned = 40
	Variation of Query 13. Qualification CSTA=POSTP used instead of the original CSTA=DECL. (Shorter run time).
	SELECT POLN,BRAN,PSTA FROM TERA.PLCY WHERE POLN IN (SELECT DISTINCT POLN FROM TERA.COVR WHERE TERA.COVR.CSTA = ′POSTP′) ;
33	Rows Returned = 40
	Variation of Query 13. Qualification CSTA=POSTP used instead of the original CSTA=DECL. (Shorter run time).
	SELECT POLN,BRAN,PSTA FROM TERA.PLCY A WHERE EXISTS (SELECT * FROM TERA.COVR WHERE TERA.COVR.CSTA = ′POSTP′ AND TERA.COVR.POLN = A.POLN);

Figure 15 (Page 12 of 12). CB1 Query Descriptions	
Query Number	**Description**
34	Rows Returned = 40
	Variation of Query 13. Qualification CSTA=POSTP used instead of the original CSTA=DECL. (Shorter run time).
	SELECT POLN,BRAN,PSTA FROM TERA.PLCY WHERE POLN = ANY (SELECT POLN FROM TERA.COVR WHERE TERA.COVR.CSTA = 'POSTP') ;

A.6.2 CB1 Table Descriptions

CB1 is a from large insurance company. They developed a benchmark to compare the performance of DB2 and a non-IBM relational database product. One part of the benchmark was to compare the performance of an interactive query workload. The queries used in this workload are described in another section of this document. They also had a batch query workload which is not covered in this document. The data and tables used are actual customer information. The only changes made were those to protect the confidentiality of the customers of CB1.

The 19 tables listed below define the CB1 tables and indexes.

APCO Applied Coverage
BLAR Policy Billing Arr.
BRAN Branch Translation Table
CAGD Commission Share
CIAR Coverage Insured Addresses
CLAD Client Data - Addresses
CLBA Client Data - Basic
CMAC Commission Account
COIN Coverage Insureds
COVR Coverage Information
EVEN Issue/underwriting Events
IFPA Insured for Package
INAP Insured Application Package
OREQ Outstanding Requests
PLCY Policy + Application Information
PLON Policy Owner Table
REPL Replacement Policies
RQFN Request Form Numbers
RQPS Requested Policy Supplements

Figure 16 (Page 1 of 2). Database Characteristics

TableName	MaxRowSz	Rows	DataBytes (MB)	Columns	IndexName	KeyLth	Unique	KeyColumn(s)
APCO	32	173,805	5.30	5	APOCI1	18	Y	POLN, PKNO, CVID
BLAR	141	621,498	83.57	23	BLARI1	15	Y	POLN, BLPU
BRAN	62	205	0.01	5	BRANI1	5	Y	BRAN
CAGD	39	113,600	4.23	6	CAGDI1	18	Y	POLN, PKNO, CMAN
					CAGDI2	18	N	CMAN, POLN, PKNO
CIAR	32	1,463,974	44.68	4	CIARI1	24	Y	POLN, CVID, CLID, CAID
					CIARI2	8	N	CLID, CAID
CLAD	271	1,341,544	108.75	13	CLADI1	8	Y	CLID, CAID
CLBA	162	1,288,928	99.57	14	CLBAI1	6	Y	CLID
CMAC	196	15,469	2.89	34	CMACI1	6	Y	CMAN
					CMACI2	5	N	BRAN
					CMACI3	4	N	CEDT
					CMACI4	8	N	COTC
COIN	36	633,756	21.76	4	COINI1	22	Y	POLN, CVID, CLID
					COINI2	22	N	CLID, CVID, POLN
COVR	302	1,654,700	476.57	59	COVRI1	16	Y	POLN, CVID
					COVRI2	4	N	IBDT
					COVRI3	4	N	CSCD
					COVRI4	5	N	CSTA
					COVRI5	10	N	ISTM
					COVRI6	4	N	CAMC
EVEN	306	931,174	271.74	54	EVENI1	14	Y	POLN, PKNO, EVNO
					EVENI2	4	N	DPDT
					EVENI3	6	N	CMAN
					EVENI4	3	N	UWID
IFPA	67	155,802	9.96	12	IFPAI1	18	Y	POLN, PKNO, CLID
					IFPAI2	18	N	CLID, POLN, PKNO

Figure 16 (Page 2 of 2). Database Characteristics

TableName	MaxRowSz	Rows	DataBytes (MB)	Columns	IndexName	KeyLth	Unique	KeyColumn(s)
INAP	51	147,811	7.47	10	INAPI1	12	Y	POLN, PKNO
					INAPI2	4	N	APLD
					INAPI3	4	N	MALD
					INAPI4	3	N	UWID
OREQ	82	149,637	10.13	7	OREQI1	12	Y	POLN, RQNO
					OREQI2	6	N	CLID
PLCY	433	624,473	244.17	85	PLCYI1	10	Y	POLN
					PLCYI2	5	N	LPCD
					PLCYI3	6	N	SAID
					PLCYI4	4	N	PTNO
					PLCYI5	5	N	BRAN
					PLCYI6	5	N	PSTA
PLON	33	597,382	18.80	4	PLONI1	16	Y	POLN, CLID
					PLONI2	6	N	CLID
REPL	36	6,051	0.21	4	REPLI1	28	Y	POLN, PKNO, CLID, RPPN
					REPLI2	10	N	RPPN
RQFN	47	121,644	5.45	4	RQFNI1	39	Y	POLN, PKNO, EVNO, POFN
RQPS	41	5,697	0.22	5	RQPSI1	22	Y	POLN, PKNO, EVNO, PSFN
RQPS								
Total			1,415.48					

Note: Total Data Size (npage) = 1,847.21 MB, Total Indexes Size (nleaf) = 376.6 MB

A.6.3 CB1 Statistics on Database Tables and Indexes

```
select name, fid, card, colcount, npages, fpages, overflow from sysibm.systables where creator = 'CB1' order by name
```

NAME	FID	CARD	COLCOUNT	NPAGES	FPAGES	OVERFLOW
APCO	2	173805	5	1474	1475	0
BLAR	3	621498	23	22208	22209	0
BRAN	4	205	5	4	5	0
CAGD	5	113600	6	1160	1161	0
CIAR	6	1463974	4	12413	12414	0
CLAD	7	1341544	13	89484	89485	0
CLBA	8	1288928	14	56070	56071	0
CMAC	9	15469	34	774	775	0
COIN	10	633756	4	6039	6040	0
COVR	11	1654700	59	127363	127364	0
EVEN	12	931174	54	71673	71674	0
IFPA	13	155802	12	2688	2689	0
INAP	14	147811	10	2026	2027	0
OREQ	15	149637	7	3255	3256	0
PLCY	16	624473	85	69432	69433	0
PLON	17	597382	4	5243	5244	0
REPL	18	6051	4	58	59	0
RQFN	19	121644	4	1484	1485	0
RQPS	20	5697	5	62	63	0

21 record(s) selected.

```
select sum(npages), sum(fpages) from sysibm.systables where creator = 'CB1'
```

1	2
472910	472929

1 record(s) selected.

```
select name, tbname, uniquerule, nleaf, nlevels, firstkeycard, fullkeycard, clusterratio, clusterfactor, substr(colnames,1,30), colcount from sysibm.sysindexes
where tbcreator = 'CB1' order by tbname
```

NAME	TBNAME	UNIQUERULE	NLEAF	NLEVELS	FIRSTKEYCARD	FULLKEYCARD	CLUSTERRATIO	CLUSTERFACTOR	10	COLCOUNT
APCOI1	APCO	U	1260	3	109688	173805	-1	+9.99994197213501E-001	+POLN+PKNO+CVID	3
BLARI1	BLAR	U	3984	3	591564	621498	-1	+1.00000000000000E+000	+POLN+BLPU	2
BRANI1	BRAN	U	1	1	205	205	100	-1.00000000000000E+000	+BRAN	1
CAGDI1	CAGD	U	824	3	110074	113600	-1	+9.99991106367840E-001	+POLN+PKNO+CMAN	3
CAGDI2	CAGD	D	824	3	6155	113600	-1	+3.52952685876912E-001	+CMAN+POLN+PKNO	3
CIARI1	CIAR	U	13072	4	624472	1463974	-1	+9.99999311086478E-001	+POLN+CVID+CLID+CAID	4
CIARI2	CIAR	D	3611	3	535328	546878	-1	+6.48089883924960E-001	+CLID+CAID	2
CLADI1	CLAD	U	5990	3	1288927	1341544	-1	+1.00000000000000E+000	+CLID+CAID	2
CLBAI1	CLBA	U	5035	3	1288928	1288928	-1	+1.00000000000000E+000	+CLID	1
CMACI1	CMAC	U	61	2	15469	15469	-1	+1.00000000000000E+000	+CMAN	1
CMACI2	CMAC	D	21	2	131	131	-1	+4.32868322558693E-001	+BRAN	1
CMACI3	CMAC	D	27	2	2829	2829	-1	+6.44028581150051E-001	+CEDT	1
CMACI4	CMAC	D	20	2	30	30	-1	+8.07213337870023E-001	+COTC	1
COINI1	COIN	U	5326	3	202462	633756	-1	+1.00000000000000E+000	+POLN+CVID+CLID	3
COINI2	COIN	D	5326	3	221480	633756	-1	+8.38994323875249E-001	+CLID+CVID+POLN	3
COVRI1	COVR	U	11106	3	624473	1654700	-1	+9.99999345265648E-001	+POLN+CVID	2
COVRI2	COVR	D	2237	3	23292	23292	-1	+7.00129048140652E-001	+IBDT	1
COVRI3	COVR	D	2187	3	1723	1723	-1	+8.82714816703844E-001	+CSCD	1
COVRI4	COVR	D	2155	3	23	23	-1	+9.34061048740389E-001	+CSTA	1
COVRI5	COVR	D	2069	3	64	64	-1	+8.15590796268276E-001	+ISTM	1
COVRI6	COVR	D	2184	3	7	7	-1	+9.56992464662350E-001	+CAMC	1
EVENI1	EVEN	U	5713	3	110076	931174	-1	+9.99998836534221E-001	+POLN+PKNO+EVNO	3
EVENI2	EVEN	D	1230	3	530	530	-1	+7.10271424931442E-001	+DPDT	1
EVENI3	EVEN	D	1205	3	1573	1573	-1	+9.62449142002161E-001	+CMAN	1
EVENI4	EVEN	D	1247	3	1	1	-1	+1.00000000000000E+000	+UWID	1
IFPAI1	IFPA	U	1130	3	110076	155802	-1	+9.99993468918583E-001	+POLN+PKNO+CLID	3
IFPAI2	IFPA	D	1130	3	114641	155802	-1	+6.09741761040793E-001	+CLID+POLN+PKNO	3
INAPI1	INAP	U	826	3	110076	147811	-1	+9.99993140583736E-001	+POLN+PKNO	2
INAPI2	INAP	D	197	2	729	729	-1	+7.98298864766608E-001	+APLD	1
INAPI3	INAP	D	197	2	517	517	-1	+6.42658709743800E-001	+MALD	1
INAPI4	INAP	D	198	2	60	60	-1	+9.11492951949789E-001	+UWID	1
OREQI1	OREQ	U	836	3	40311	149637	-1	+1.00000000000000E+000	+POLN+RQNO	2
OREQI2	OREQ	D	218	2	8351	8351	-1	+9.71601699662526E-001	+CLID	1
PLCYI1	PLCY	U	3139	3	624473	624473	-1	+9.99998198331294E-001	+POLN	1
PLCYI2	PLCY	D	817	3	1207	1207	-1	+2.31741438920728E-001	+LPCD	1
PLCYI3	PLCY	D	846	3	14047	14047	-1	+2.36692424523593E-001	+SAID	1
PLCYI4	PLCY	D	828	3	1595	1595	-1	+9.87528849220147E-001	+PTNO	1
PLCYI5	PLCY	D	814	3	168	168	-1	+4.22664271648400E-001	+BRAN	1
PLCYI6	PLCY	D	814	3	24	24	-1	+8.09974398287694E-001	+PSTA	1
PLONI1	PLON	U	4010	3	591564	597382	-1	+1.00000000000000E+000	+POLN+CLID	2
PLONI2	PLON	D	1916	3	437654	437654	-1	+2.34216965948873E-001	+CLID	1
REPLI1	REPL	U	62	2	4200	6051	-1	+1.00000000000000E+000	+POLN+PKNO+CLID+RPPN	4
REPLI2	REPL	D	28	2	5325	5325	-1	+5.03587518771900E-001	+RPPN	1
RQFNI1	RQFN	U	1601	3	29427	121644	-1	+1.00000000000000E+000	+POLN+PKNO+EVNO+POFN	4
RQPSI1	RQPS	U	48	2	3466	5697	-1	+1.00000000000000E+000	+POLN+PKNO+EVNO+PSFN	4

47 record(s) selected.

Figure 17 (Part 1 of 6). CB1 Database Statistics

```
select sum(nleaf) from sysibm.sysindexes where creator = 'CB1'

1
-----------
      96372

  1 record(s) selected.

select tbname, name, colno, coltype, nulls, length, scale, colcard, high2key, low2key, keyseq from sysibm.syscolumns where tbcreator = 'CB1' order by tbname, colno
```

TBNAME	NAME	COLNO	COLTYPE	NULLS	LENGTH	SCALE	COLCARD	HIGH2KEY	LOW2KEY	KEYSEQ
APCO	POLN	0	CHAR	N	10	0	109688	SNA181112	4250006	-
APCO	PKNO	1	SMALLINT	N	2	0	61	60	2	-
APCO	CVID	2	CHAR	N	6	0	72	000074	000002	-
APCO	DNRC	3	CHAR	Y	3	0	21	901	024	-
APCO	NPWC	4	CHAR	Y	1	0	10	8	1	-
BLAR	POLN	0	CHAR	N	10	0	591564	5803821	18684	-
BLAR	BLPU	1	CHAR	N	5	0	4	PREM	LREPY	-
BLAR	BLFQ	2	SMALLINT	Y	2	0	6	12	1	-
BLAR	BLID	3	CHAR	Y	10	0	99605	990600000	1	-
BLAR	BLTY	4	CHAR	Y	5	0	4	NOBIL	MASS	-
BLAR	SOIN	5	CHAR	Y	20	0	7591	PSPLN	#804975	-
BLAR	PDCI	6	SMALLINT	Y	2	0	11	9	1	-
BLAR	BLDY	7	SMALLINT	Y	2	0	31	29	1	-
BLAR	BAHD	8	INTEGER	Y	4	0	408	19871027	19860621	-
BLAR	BALT	9	SMALLINT	Y	2	0	52	50	1	-
BLAR	PPTD	10	INTEGER	Y	4	0	2578	19871128	11200	-
BLAR	AMAC	11	DECIMAL	Y	11	2	4366	+000012312.39	-000033285.00	-
BLAR	FOSA	12	DECIMAL	Y	9	2	25304	+0164506.00	+0000000.69	-
BLAR	SOSA	13	DECIMAL	Y	9	2	3112	+0017920.90	+0000002.59	-
BLAR	TOSA	14	DECIMAL	Y	9	2	720	+0007264.32	+0000005.00	-
BLAR	FOUA	15	DECIMAL	Y	9	2	120	+0001445.39	+0000005.00	-
BLAR	DPYR	16	SMALLINT	Y	2	0	8	1987	1977	-
BLAR	RMAM	17	DECIMAL	Y	11	2	2014	+000005000.00	+000000001.81	-
BLAR	BAND	18	INTEGER	Y	4	0	97	19870131	19861029	-
BLAR	BAPD	19	INTEGER	Y	4	0	75	19871009	19861029	-
BLAR	UNFQ	20	SMALLINT	Y	2	0	1	0	0	-
BLAR	BCSI	21	CHAR	Y	1	0	2	Y	N	-
BLAR	DBOI	22	CHAR	Y	1	0	1	N	N	-
BRAN	BRAN	0	CHAR	N	5	0	205	WPGHO	ADRVL	-
BRAN	REGN	1	CHAR	Y	8	0	5	MOUNTAIN	CENTRAL	-
BRAN	ABRAN	2	CHAR	Y	5	0	205	WPGHO	ADRVL	-
BRAN	NBRAN	3	SMALLINT	Y	2	0	205	893	2	-
BRAN	BRNM	4	CHAR	Y	30	0	172	WINNIPEG REGIONAL AGENCY	ALBERTA GROUP	-
CAGD	POLN	0	CHAR	N	10	0	110074	SNA181112	4250006	-
CAGD	PKNO	1	SMALLINT	N	2	0	3	2	0	-
CAGD	CMAN	2	CHAR	N	6	0	6155	950400	000050	-
CAGD	ABNM	3	CHAR	Y	5	0	348	WYSE	A CLE	-
CAGD	CMTC	4	CHAR	Y	1	0	3	I		-
CAGD	CSHR	5	DECIMAL	Y	7	4	35	+096.0000	+004.0000	-
CIAR	POLN	0	CHAR	N	10	0	624472	SNA181112	18684	-
CIAR	CVID	1	CHAR	N	6	0	264	070200	000002	-
CIAR	CLID	2	CHAR	N	6	0	535328	FMB006	BBB001	-
CIAR	CAID	3	SMALLINT	N	2	0	10	10	2	-
CLAD	CLID	0	CHAR	N	6	0	1288927	FMB036	BBB001	-
CLAD	CAID	1	SMALLINT	N	2	0	37	36	2	-
CLAD	POZI	2	CHAR	Y	10	0	298815	Z6G 1G5	00000	-
CLAD	UAID	3	CHAR	Y	1	0	3	Y		-
CLAD	CRLG	4	CHAR	Y	2	0	3	FR		-
CLAD	CRES	5	CHAR	Y	5	0	77	WYO	ALA	-
CLAD	CACD	6	INTEGER	Y	4	0	1264	19861024	19810908	-
CLAD	FLMA	7	VARCHAR	Y	35	0	597630	ZYKON INC	31 MARK AVE	-
CLAD	SLMA	8	VARCHAR	Y	35	0	99605	ZURICH ONT	PORTLAND OR	-
CLAD	TLMA	9	VARCHAR	Y	35	0	12514	ZIONSVILLE IN	KINGSTON ON	-
CLAD	FLMN	10	VARCHAR	Y	35	0	597630	ZYKON (1982) INC	CHRISTOPHER L GARZA	-
CLAD	SLMN	11	VARCHAR	Y	35	0	5748	ZIELSDORF CONSTRUCTION LTD	(RIDB) DE EM	-
CLAD	TLMN	12	VARCHAR	Y	35	0	96	Y ASSOCIATION	AGREEMENT	-
CLBA	CLID	0	CHAR	N	6	0	1288928	FMB036	BBB000	-
CLBA	BIRD	1	INTEGER	Y	4	0	35911	19861022	18290804	-
CLBA	SEXI	2	CHAR	Y	1	0	4	F	B	-
CLBA	SISN	3	CHAR	Y	9	0	199210	999999659	000000000	-
CLBA	SSNT	4	CHAR	Y	1	0	4	T	C	-
CLBA	PAIN	5	CHAR	Y	1	0	4	C	A	-
CLBA	CLST	6	CHAR	Y	5	0	4	DEAD	ACTVE	-
CLBA	DTCN	7	INTEGER	Y	4	0	69982	1240020	1792	-
CLBA	NATY	8	CHAR	Y	1	0	2	C		-
CLBA	MIBY	9	CHAR	Y	2	0	33	85	04	-
CLBA	CLAI	10	CHAR	Y	1	0	2	N		-
CLBA	NATI	11	VARCHAR	Y	15	0	156	WILLIAMS	,LLE	-
CLBA	NASX	12	VARCHAR	Y	15	0	528	YII	BANNISTER	-
CLBA	LENM	13	VARCHAR	Y	70	0	697235	ZZZZC,XIZSMVH,DRMMRZN	,CFSPV,L,HFOEZB	-

Figure 17 (Part 2 of 6). CB1 Database Statistics

CMAC	CMAN	0	CHAR	N	6	0	15469	M54401	000020	-
CMAC	SURI	1	CHAR	Y	5	0	6380	ZULQE	ABARQ	-
CMAC	BRAN	2	CHAR	Y	5	0	131	WPGHO	ADRVL	-
CMAC	CRDT	3	INTEGER	Y	4	0	2711	19861023	19070612	-
CMAC	ASED	4	INTEGER	Y	4	0	3112	19861020	19171201	-
CMAC	ASTC	5	CHAR	Y	3	0	5	NPW	DOR	-
CMAC	CURY	6	CHAR	Y	2	0	1	CN	CN	-
CMAC	BSTC	7	CHAR	Y	2	0	7	ML	AL	-
CMAC	DSTC	8	CHAR	Y	3	0	8	PTM	COR	-
CMAC	COTC	9	CHAR	Y	8	0	30	TS79	ALLAF	-
CMAC	CTPD	10	INTEGER	Y	4	0	344	198611	191403	-
CMAC	CEDT	11	INTEGER	Y	4	0	2829	19861020	19140216	-
CMAC	MFAM	12	DECIMAL	Y	7	2	63	+05500.96	+00154.70	-
CMAC	FEFD	13	INTEGER	Y	4	0	440	198611	190706	-
CMAC	PPSD	14	INTEGER	Y	4	0	284	19860901	19430915	-
CMAC	EXPE	15	DECIMAL	Y	9	2	92	-0000077.04	-0031517.76	-
CMAC	PCSD	16	INTEGER	Y	4	0	440	198611	190706	-
CMAC	CHII	17	CHAR	Y	1	0	2	Y	N	-
CMAC	MXCA	18	DECIMAL	Y	9	2	3	+0020000.00	+0000000.00	-
CMAC	MICA	19	DECIMAL	Y	7	2	5	+00024.00	+00001.00	-
CMAC	GWPN	20	CHAR	Y	10	0	83	0249060	0031435	-
CMAC	GPTD	21	INTEGER	Y	4	0	29	19851231	19811215	-
CMAC	GEBC	22	CHAR	Y	1	0	4	R	N	-
CMAC	IDRB	23	DECIMAL	Y	11	2	180	+000014074.18	+000000040.74	-
CMAC	DRBL	24	DECIMAL	Y	11	2	116	+000032160.00	+000000040.74	-
CMAC	NTDB	25	DECIMAL	Y	11	2	288	+000018634.32	+000000000.02	-
CMAC	CABL	26	DECIMAL	Y	11	2	3957	+000149246.53	-000087859.87	-
CMAC	ADFB	27	DECIMAL	Y	11	2	2	+000001500.00	+000000000.00	-
CMAC	BRSD	28	INTEGER	Y	4	0	392	19881000	19080600	-
CMAC	LBOD	29	INTEGER	Y	4	0	1	19861000	19861000	-
CMAC	NBOD	30	INTEGER	Y	4	0	1	19861100	19861100	-
CMAC	LFAD	31	INTEGER	Y	4	0	51	198609	198112	-
CMAC	CMTC	32	CHAR	Y	1	0	3	C		-
CMAC	ACID	33	CHAR	Y	12	0	896	MGR ACCOUNT	0000	-
COIN	POLN	0	CHAR	N	10	0	202462	SNA81416	4401775	-
COIN	CVID	1	CHAR	N	6	0	244	070200	000002	-
COIN	CLID	2	CHAR	N	6	0	221480	FMB006	BBB016	-
COIN	INTY	3	CHAR	Y	5	0	4	PRMRY	JOINT	-
COVR	POLN	0	CHAR	N	10	0	624473	SNA181112	18684	-
COVR	CVID	1	CHAR	N	6	0	264	070200	000002	-
COVR	PLTC	2	CHAR	Y	1	0	5	2	0	-
COVR	CSTA	3	CHAR	Y	5	0	23	SURRI	CANCL	-
COVR	CSCD	4	INTEGER	Y	4	0	1723	19870224	19551108	-
COVR	CVTY	5	CHAR	Y	1	0	9	P	B	-
COVR	IFDR	6	SMALLINT	Y	2	0	93	98	1	-
COVR	PRPD	7	SMALLINT	Y	2	0	98	98	1	-
COVR	ISAG	8	SMALLINT	Y	2	0	83	81	1	-
COVR	BACO	9	CHAR	Y	17	0	568	80016300260000005	00000000000000000	-
COVR	IBDT	10	INTEGER	Y	4	0	23292	19870130	19011101	-
COVR	OPUA	11	DECIMAL	Y	7	0	1587	+0044185.	+0000010.	-
COVR	GAPU	12	DECIMAL	Y	7	2	9338	+05910.00	+00000.00	-
COVR	OFCA	13	DECIMAL	Y	11	2	46458	+015000000.00	+000000002.00	-
COVR	CVUN	14	DECIMAL	Y	7	3	35911	+9136.000	+0000.002	-
COVR	MIPA	15	DECIMAL	Y	9	2	3179	+0004729.36	+0000000.02	-
COVR	ISTM	16	CHAR	Y	10	0	64	UL	CL	-
COVR	GUIS	17	DECIMAL	Y	3	0	11	+090.	+010.	-
COVR	ACPP	18	DECIMAL	Y	11	2	597630	+001457550.00	-000001143.99	-
COVR	MCPR	19	DECIMAL	Y	9	2	76229	+0374348.34	+0000000.00	-
COVR	ECRT	20	CHAR	Y	2	0	11	J	A	-
COVR	EPMC	21	DECIMAL	Y	3	2	188	+7.80	+0.00	-
COVR	EXPT	22	CHAR	Y	1	0	6	3	0	-
COVR	PVCV	23	DECIMAL	Y	11	2	64280	+000760000.00	+000000000.01	-
COVR	CUCV	24	DECIMAL	Y	11	2	59034	+000860000.00	+000000000.01	-
COVR	NECV	25	DECIMAL	Y	11	2	68510	+000965000.00	+000000000.01	-
COVR	CAOP	26	CHAR	Y	10	0	7	SEE APP	INST RFND	-
COVR	CORI	27	CHAR	Y	7	0	5	NOTAPPL	COMTBLE	-
COVR	CVFE	28	DECIMAL	Y	5	2	1200	+250.00	+000.01	-
COVR	AIBD	29	INTEGER	Y	4	0	880	19811216	19251111	-
COVR	AAAM	30	DECIMAL	Y	7	0	1152	+0048961.	+0000001.	-
COVR	IMPC	31	SMALLINT	Y	2	0	22	901	24	-
COVR	CVCD	32	CHAR	Y	5	0	372	71002	00100	-
COVR	CVOI	33	CHAR	Y	1	0	3	Y		-
COVR	DVOI	34	CHAR	Y	1	0	3	Y		-
COVR	GPOI	35	CHAR	Y	1	0	3	Y		-
COVR	RVOI	36	CHAR	Y	1	0	3	Y		-
COVR	OROI	37	CHAR	Y	1	0	3	Y		-
COVR	OIBD	38	INTEGER	Y	4	0	4366	19830912	19631001	-
COVR	OIST	39	CHAR	Y	10	0	24	TMCNV	GIROP	-
COVR	CAMC	40	CHAR	Y	4	0	7	URKE	CWWC	-
COVR	CLOBI	41	CHAR	Y	4	0	5	HLTH	ANN	-
COVR	CVED	42	INTEGER	Y	4	0	15851	20851001	19821023	-
COVR	CPRD	43	INTEGER	Y	4	0	680	19861026	19811031	-
COVR	CPOED	44	CHAR	Y	2	0	2	U		-
COVR	IPCT	45	DECIMAL	Y	3	0	2	+100.	+000.	-
COVR	HIIA	46	DECIMAL	Y	5	1	50	+0269.2	+0114.1	-
COVR	ISED	47	INTEGER	Y	4	0	1603	19861023	19820423	-
COVR	NICP	48	DECIMAL	Y	5	0	61	+00054.	-00004.	-
COVR	PWVI	49	CHAR	Y	1	0	2	N		-
COVR	DSCN	50	INTEGER	Y	4	0	1	0	0	-

Figure 17 (Part 3 of 6). CB1 Database Statistics

COVR	CRCDI	51	CHAR	Y	1	0	5	F	A	-
COVR	ICFQ	52	SMALLINT	Y	2	0	3	999	0	-
COVR	LKII	53	CHAR	Y	1	0	4	1	0	-
COVR	IDST	54	CHAR	Y	1	0	3	P		-
COVR	LFTD	55	INTEGER	Y	4	0	40	19860930	19830831	-
COVR	PDAC	56	CHAR	Y	2	0	2	00		-
COVR	INCU	57	DECIMAL	Y	15	6	1	+000000000.000000	+000000000.000000	-
COVR	OOFC	58	DECIMAL	Y	11	2	992	+015000000.00	+000000010.00	-
EVEN	POLN	0	CHAR	N	10	0	110076	SNA181112	4250006	-
EVEN	PKNO	1	SMALLINT	N	2	0	400	998	603	-
EVEN	EVNO	2	SMALLINT	N	2	0	62	60	1	-
EVEN	CLID	3	CHAR	Y	6	0	99605	FLY831	BBB167	-
EVEN	CVID	4	CHAR	Y	6	0	74	000074		-
EVEN	DPDT	5	INTEGER	Y	4	0	530	19960502	19841017	-
EVEN	DPRT	6	INTEGER	Y	4	0	796840	193547242	70140721	-
EVEN	TXCD	7	CHAR	Y	8	0	44	NBIS1001	IBAI1001	-
EVEN	EXTX	8	CHAR	Y	8	0	47	UND STAT	ADD AGNT	-
EVEN	ABNM	9	CHAR	Y	5	0	1390	ZIELS	AGE	-
EVEN	APRC	10	CHAR	Y	10	0	5	NEW APP	GPO ELECT	-
EVEN	ARCD	11	INTEGER	Y	4	0	320	19861023	19580820	-
EVEN	ATSM	12	CHAR	Y	3	0	13	OCT	APR	-
EVEN	BACO	13	CHAR	Y	17	0	2	30041000000000000		-
EVEN	BFAP	14	CHAR	Y	1	0	2	F		-
EVEN	BLID	15	CHAR	Y	10	0	146	7406251	441019	-
EVEN	BLTY	16	CHAR	Y	5	0	4	AUTPY		-
EVEN	BRAN	17	CHAR	Y	5	0	29	WPGHO	CALGY	-
EVEN	CASU	18	DECIMAL	Y	11	2	360	+000174243.59	+000000005.00	-
EVEN	CMAN	19	CHAR	Y	6	0	1573	914600	000000	-
EVEN	CMRI	20	CHAR	Y	1	0	2			-
EVEN	CMTC	21	CHAR	Y	1	0	3	I		-
EVEN	COSH	22	DECIMAL	Y	7	4	21	+009.0000	+001.0000	-
EVEN	CRCD	23	CHAR	Y	3	0	3	YES		-
EVEN	CSTA	24	CHAR	Y	5	0	9	PENDG	CANCL	-
EVEN	CVCD	25	CHAR	Y	5	0	20	71002	0	-
EVEN	CVTY	26	CHAR	Y	1	0	5	G	A	-
EVEN	DSEL	27	CHAR	Y	1	0	4	1	0	-
EVEN	ERCT	28	CHAR	Y	2	0	1			-
EVEN	ESCD	29	CHAR	Y	1	0	2	L		-
EVEN	GRTY	30	CHAR	Y	5	0	2			-
EVEN	HBPI	31	CHAR	Y	1	0	3	H		-
EVEN	IMPC	32	SMALLINT	Y	2	0	1	0	0	-
EVEN	IPCT	33	DECIMAL	Y	4	0	2	+0100.	+0000.	-
EVEN	IBDT	34	INTEGER	Y	4	0	584	19861022	18620602	-
EVEN	IFDR	35	SMALLINT	Y	2	0	34	49	6	-
EVEN	INAG	36	SMALLINT	Y	2	0	79	405	1	-
EVEN	INSA	37	CHAR	Y	1	0	3	Y		-
EVEN	ISAG	38	SMALLINT	Y	2	0	71	70	1	-
EVEN	ISTM	39	CHAR	Y	10	0	27	TMCNV	EXCHG	-
EVEN	MCPR	40	DECIMAL	Y	11	2	166	+004453482.00	+000000005.00	-
EVEN	MEDT	41	INTEGER	Y	4	0	440	19861021	806	-
EVEN	MESC	42	CHAR	Y	5	0	4	NMED	MED	-
EVEN	MSNO	43	CHAR	Y	5	0	53	WPGHO	ADDLC	-
EVEN	OFCA	44	DECIMAL	Y	13	2	312	+00001500000.00	+00000000020.00	-
EVEN	PCMI	45	CHAR	Y	1	0	1			-
EVEN	PLNA	46	CHAR	Y	15	0	8	I3234 LINDSAY	FAA	-
EVEN	PRPD	47	SMALLINT	Y	2	0	34	49	6	-
EVEN	PSTA	48	CHAR	Y	5	0	3	NWBUS		-
EVEN	RCDI	49	CHAR	Y	1	0	5	F	A	-
EVEN	RCVI	50	CHAR	Y	6	0	1			-
EVEN	REOR	51	CHAR	Y	1	0	1			-
EVEN	USID	52	CHAR	Y	8	0	1			-
EVEN	UWID	53	CHAR	Y	3	0	1			-
IFPA	POLN	0	CHAR	N	10	0	110076	SNA181112	4250006	-
IFPA	PKNO	1	SMALLINT	N	2	0	62	60	1	-
IFPA	CLID	2	CHAR	N	6	0	114641	FLY831	BBB049	-
IFPA	APRC	3	CHAR	Y	10	0	7	REISSUE	GPO ELECT	-
IFPA	ARPI	4	CHAR	Y	1	0	1			-
IFPA	APSI	5	CHAR	Y	1	0	1			-
IFPA	CAID	6	SMALLINT	Y	2	0	2	1	0	-
IFPA	DRQI	7	CHAR	Y	1	0	1			-
IFPA	INAG	8	SMALLINT	Y	2	0	1	0	0	-
IFPA	MEDT	9	INTEGER	Y	4	0	480	19861022	806	-
IFPA	MESC	10	CHAR	Y	5	0	5	NMED2	MED	-
IFPA	RPCO	11	CHAR	Y	6	0	1			-
INAP	POLN	0	CHAR	N	10	0	110076	SNA181112	4250006	-
INAP	PKNO	1	SMALLINT	N	2	0	62	60	1	-
INAP	APLD	2	INTEGER	Y	4	0	729	19861023	18521023	-
INAP	ARCD	3	INTEGER	Y	4	0	800	19861101	18520816	-
INAP	CMRI	4	CHAR	Y	1	0	2	R		-
INAP	CRCD	5	CHAR	Y	3	0	3	YES		-
INAP	HBPI	6	CHAR	Y	1	0	3	H		-
INAP	MALD	7	INTEGER	Y	4	0	517	19960502	18760311	-
INAP	PACS	8	CHAR	Y	5	0	4	ACTVE	ACTIV	-
INAP	UWID	9	CHAR	Y	3	0	60	VAL	ARG	-

Figure 17 (Part 4 of 6). CB1 Database Statistics

OREQ	POLN	0	CHAR	N	10	0	40311	SNA19853	4279703	-
OREQ	RQNO	1	SMALLINT	N	2	0	97	96	2	-
OREQ	CLID	2	CHAR	Y	6	0	8351	FLY626	BBB370	-
OREQ	RQAD	3	INTEGER	Y	4	0	480	19861023	19841026	-
OREQ	RQRD	4	INTEGER	Y	4	0	456	19861023	19841119	-
OREQ	RQCI	5	CHAR	Y	1	0	3	R	A	-
OREQ	RQTX	6	VARCHAR	Y	40	0	77888	ZURICH LIFE - ADVISE ALL DETAILS	TAUX DE GLYCEMIE AU DOSSIER	-
PLCY	POLN	0	CHAR	N	10	0	624473	SNA181112	18684	-
PLCY	COCD	1	CHAR	Y	2	0	6	UL	CL	-
PLCY	SURI	2	CHAR	Y	5	0	61604	ZYZDA	AABYE	-
PLCY	BRAN	3	CHAR	Y	5	0	168	WPGHO	ADRVL	-
PLCY	LOBI	4	CHAR	Y	4	0	4	HLTH	DEFA	-
PLCY	PSTA	5	CHAR	Y	5	0	24	TERMN	CONVD	-
PLCY	POCD	6	INTEGER	Y	4	0	2113	19870129	19480614	-
PLCY	CNCD	7	CHAR	Y	1	0	3	C		-
PLCY	CNLG	8	CHAR	Y	2	0	3	FR		-
PLCY	CTJU	9	CHAR	Y	5	0	63	WYO	ALA	-
PLCY	CURY	10	CHAR	Y	2	0	3	US		-
PLCY	PACD	11	CHAR	Y	2	0	6	88	39	-
PLCY	POED	12	CHAR	Y	2	0	22	X	A	-
PLCY	PSCD	13	CHAR	Y	5	0	18	STCOR	ABCOR	-
PLCY	CHPR	14	SMALLINT	Y	2	0	142	1212	117	-
PLCY	CLRK	15	CHAR	Y	15	0	24	W LAZARENKO	ANN VALUE O/S	-
PLCY	DEPT	16	CHAR	Y	3	0	16	097	041	-
PLCY	CRES	17	CHAR	Y	5	0	76	WYO	ALA	-
PLCY	ORES	18	CHAR	Y	5	0	64	WYO	ALA	-
PLCY	RTXC	19	CHAR	Y	5	0	146	WREN0	ABBE0	-
PLCY	PNPI	20	CHAR	Y	4	0	3	PAR		-
PLCY	CDVA	21	DECIMAL	Y	9	2	81338	+0078302.00	-0000007.39	-
PLCY	LDVA	22	DECIMAL	Y	9	2	86880	+0056456.48	+0000000.00	-
PLCY	TDDA	23	DECIMAL	Y	11	2	398420	+000313738.00	+000000000.50	-
PLCY	CHSU	24	DECIMAL	Y	11	2	3012	+000224000.00	-000043193.93	-
PLCY	CUVY	25	SMALLINT	Y	2	0	8	1986	1981	-
PLCY	GRTY	26	CHAR	Y	5	0	8	PTRUS	AGTPI	-
PLCY	ITBD	27	INTEGER	Y	4	0	124	19860922	19820614	-
PLCY	ITPR	28	DECIMAL	Y	9	2	164	+0001874.60	+0000001.90	-
PLCY	LAHD	29	INTEGER	Y	4	0	448	20471117	19841215	-
PLCY	LICI	30	CHAR	Y	1	0	3	Y		-
PLCY	MATP	31	CHAR	Y	1	0	3	Y		-
PLCY	NOFO	32	CHAR	Y	5	0	5	NOVAL	AUTOL	-
PLCY	PDAC	33	CHAR	Y	2	0	14	40	00	-
PLCY	NFSI	34	CHAR	Y	1	0	3	Y		-
PLCY	PDSI	35	CHAR	Y	1	0	3	Y		-
PLCY	PRAD	36	SMALLINT	Y	2	0	372	1230	101	-
PLCY	PRPI	37	CHAR	Y	1	0	3	Y		-
PLCY	PSAI	38	CHAR	Y	1	0	3	Y		-
PLCY	PWVI	39	CHAR	Y	1	0	8	9	0	-
PLCY	RCDI	40	CHAR	Y	1	0	5	F	A	-
PLCY	RPLO	41	DECIMAL	Y	5	2	2	+025.00	+000.00	-
PLCY	SAID	42	CHAR	Y	6	0	14047	E78783	000 40	-
PLCY	SPPR	43	DECIMAL	Y	9	2	90	+0001500.00	+0000010.47	-
PLCY	SWIN	44	CHAR	Y	2	0	15	12	00	-
PLCY	TFIN	45	CHAR	Y	1	0	3	Y		-
PLCY	REGI	46	CHAR	Y	1	0	7	4	0	-
PLCY	TXST	47	CHAR	Y	1	0	4	2	1	-
PLCY	TGRA	48	DECIMAL	Y	9	2	1	+0000000.00	+0000000.00	-
PLCY	PTNO	49	INTEGER	Y	4	0	1595	9993	1	-
PLCY	TRTY	50	CHAR	Y	1	0	8	6	1	-
PLCY	WRCI	51	CHAR	Y	1	0	3	Y		-
PLCY	FXLI	52	CHAR	Y	1	0	2	Y		-
PLCY	OWRI	53	CHAR	Y	2	0	11	22	01	-
PLCY	ODPI	54	CHAR	Y	1	0	3	Y		-
PLCY	ANLT	55	SMALLINT	Y	2	0	52	50	1	-
PLCY	LPDD	56	INTEGER	Y	4	0	75	19871009	19861028	-
PLCY	LNFD	57	INTEGER	Y	4	0	97	19870131	19861028	-
PLCY	PLHD	58	INTEGER	Y	4	0	408	19871102	19850920	-
PLCY	PRHD	59	INTEGER	Y	4	0	408	19871102	19850920	-
PLCY	LSCD	60	INTEGER	Y	4	0	24555	20800301	19841215	-
PLCY	LBLD	61	INTEGER	Y	4	0	408	19871027	19851115	-
PLCY	UBPD	62	INTEGER	Y	4	0	2	20991231	0	-
PLCY	LAND	63	INTEGER	Y	4	0	2	20991231	0	-
PLCY	LPCD	64	DECIMAL	Y	8	0	1207	+19861024.	+19820602.	-
PLCY	LPCT	65	DECIMAL	Y	9	0	597630	+235959686.	+000000804.	-
PLCY	SNTI	66	CHAR	Y	1	0	3	Y		-
PLCY	DSCN	67	INTEGER	Y	4	0	1505	9999909	4	-
PLCY	PLBL	68	DECIMAL	Y	13	2	67069	+00000664239.76	+00000000005.00	-
PLCY	PARB	69	DECIMAL	Y	13	2	24184	+00000164506.00	-00000033285.00	-
PLCY	PPSB	70	DECIMAL	Y	11	2	1	+000000000.00	+000000000.00	-
PLCY	PADB	71	DECIMAL	Y	13	2	71489	+00000123082.18	+00000000000.01	-
PLCY	PPUA	72	DECIMAL	Y	13	2	376	+00000075643.23	+00000000011.02	-
PLCY	PHOA	73	DECIMAL	Y	13	2	99605	+00013998706.62	+00000000002.00	-
PLCY	OPPI	74	CHAR	Y	1	0	4	Y	N	-
PLCY	ANIN	75	DECIMAL	Y	9	2	2			-
PLCY	BFAP	76	CHAR	Y	1	0	4	F	B	-
PLCY	CASU	77	DECIMAL	Y	11	2	9044	+000600000.00	+000000005.00	-
PLCY	CWAI	78	CHAR	Y	1	0	4	Y	N	-
PLCY	EMST	79	CHAR	Y	1	0	2			-
PLCY	OCCC	80	CHAR	Y	1	0	2			-
PLCY	PINC	81	CHAR	Y	1	0	2			-
PLCY	PLNA	82	CHAR	Y	15	0	6	SPIA	FAA	-
PLCY	PRRQ	83	CHAR	Y	1	0	2			-
PLCY	SANM	84	VARCHAR	Y	30	0	27215	ZULAK,MEL	4530068	-

Figure 17 (Part 5 of 6). CB1 Database Statistics

PLON	POLN	0	CHAR	N	10	0	591564	5803821	18684	-
PLON	CLID	1	CHAR	N	6	0	437654	FMB006	BBB005	-
PLON	CAID	2	SMALLINT	Y	2	0	17	22	2	-
PLON	OWTY	3	CHAR	Y	5	0	4	PRMRY	JTSEC	-
REPL	POLN	0	CHAR	N	10	0	4200	4455276	4290013	-
REPL	PKNO	1	SMALLINT	N	2	0	8	7	2	-
REPL	CLID	2	CHAR	N	6	0	4984	FLY630	BBB400	-
REPL	RPPN	3	CHAR	N	10	0	5325	20741274	12393	-
RQFN	POLN	0	CHAR	N	10	0	29427	4455273	4250025	-
RQFN	PKNO	1	SMALLINT	N	2	0	12	10	1	-
RQFN	EVNO	2	SMALLINT	N	2	0	138	997	843	-
RQFN	POFN	3	CHAR	N	25	0	45	N631000	N101025	-
RQPS	POLN	0	CHAR	N	10	0	3466	4455201	4282037	-
RQPS	PKNO	1	SMALLINT	N	2	0	12	11	2	-
RQPS	EVNO	2	SMALLINT	N	2	0	156	996	797	-
RQPS	PSFN	3	CHAR	N	8	0	184	Z25	AGENT	-
RQPS	AMCD	4	CHAR	Y	10	0	720	Z7	(A)	-

386 record(s) selected.

88

Figure 17 (Part 6 of 6). CB1 Database Statistics

A.6.4 CB1 DBM and Database Configurations on AIX

```
        Database Manager Configuration

     Node type = Database Server with local clients

 Database manager configuration release level            = 0x0600

 CPU speed (millisec/instruction)             (CPUSPEED) = 4.000000e-05
 Max number of concurrently active databases     (NUMDB) = 8
 Transaction processor monitor name        (TP_MON_NAME) =

 Diagnostic error capture level              (DIAGLEVEL) = 3
 Diagnostic data directory path               (DIAGPATH) =

 Default database monitor switches
   Buffer pool                         (DFT_MON_BUFPOOL) = OFF
   Lock                                   (DFT_MON_LOCK) = OFF
   Sort                                   (DFT_MON_SORT) = OFF
   Statement                              (DFT_MON_STMT) = OFF
   Table                                 (DFT_MON_TABLE) = OFF
   Unit of work                            (DFT_MON_UOW) = OFF

 Database monitor SQL statement size (bytes) (SQLSTMTSZ) = 256

 SYSADM group name                        (SYSADM_GROUP) =
 SYSCTRL group name                      (SYSCTRL_GROUP) =
 SYSMAINT group name                    (SYSMAINT_GROUP) =

 Database manager authentication        (AUTHENTICATION) = SERVER

 Default database path                       (DFTDBPATH) = /db3/cb1

 Database monitor heap size (4KB)          (MON_HEAP_SZ) = 48
 UDF shared memory set size (4KB)           (UDF_MEM_SZ) = 256

 Backup buffer default size (4KB)            (BACKBUFSZ) = 1024
 Restore buffer default size (4KB)           (RESTBUFSZ) = 1024

 Sort heap threshold (4KB)                  (SHEAPTHRES) = 12000

 Directory cache support                     (DIR_CACHE) = YES

 Application support layer heap size (4KB)   (ASLHEAPSZ) = 15
 Max requester I/O block size (bytes)         (RQRIOBLK) = 32767
 Query heap size (4KB)                   (QUERY_HEAP_SZ) = 1000
 DRDA services heap size (4KB)            (DRDA_HEAP_SZ) = 128

 Priority of agents                           (AGENTPRI) = SYSTEM
 Max number of existing agents               (MAXAGENTS) = 200
 Max number of concurrent agents             (MAXCAGENTS) = MAXAGENTS
 Maximum number of idle agents         (MAX_IDLEAGENTS) = 3

 Index re-creation time                       (INDEXREC) = RESTART

 Transaction manager database name         (TM_DATABASE) =
 Transaction resync interval (sec)     (RESYNC_INTERVAL) = 180

 Default accounting string             (DFT_ACCOUNT_STR) =

 Directory services type                      (DIR_TYPE) = NONE
 Directory path name                     (DIR_PATH_NAME) = /.:/subsys/database/
 Directory object name                    (DIR_OBJ_NAME) =
 Routing information object name        (ROUTE_OBJ_NAME) =
 Default client comm. protocols        (DFT_CLIENT_COMM) =
```

```
     Database Configuration for Database cb1db

Database configuration release level                        = 0x0600
Database release level                                      = 0x0600

Database territory                                          = En_US
Database code page                                          = 850
Database code set                                           = IBM-850
Database country code                                       = 1

Directory object name                        (DIR_OBJ_NAME) =

Backup pending                                              = NO
Database is consistent                                      = YES
Rollforward pending                                         = NO

Log retain for recovery status                              = NO
User exit for logging status                                = NO

Number of frequent values retained      (NUM_FREQVALUES) = 10
Number of quantiles retained             (NUM_QUANTILES) = 20

Database heap (4KB)                             (DBHEAP) = 512
Catalog cache size (4KB)              (CATALOGCACHE_SZ) = 64
Log buffer size (4KB)                         (LOGBUFSZ) = 8
Utilities heap size (4KB)                 (UTIL_HEAP_SZ) = 5000
Buffer pool size (4KB)                        (BUFFPAGE) = 11250
Max storage for lock lists (4KB)              (LOCKLIST) = 2500

Sort list heap (4KB)                          (SORTHEAP) = 2250
SQL statement heap (4KB)                      (STMTHEAP) = 512
Default application heap (4KB)              (APPLHEAPSZ) = 512
Package cache size (4KB)                   (PCKCACHESZ) = 20
Statistics heap size (4KB)                (STAT_HEAP_SZ) = 1096

Interval for checking deadlock (ms)          (DLCHKTIME) = 10000
Percent. of lock lists per application        (MAXLOCKS) = 100
Lock timeout (sec)                         (LOCKTIMEOUT) = -1

Changed pages threshold                 (CHNGPGS_THRESH) = 60
Number of asynchronous page cleaners   (NUM_IOCLEANERS) = 1
Number of I/O servers                    (NUM_IOSERVERS) = 3
Index sort flag                              (INDEXSORT) = YES
Sequential detect flag                       (SEQDETECT) = YES
Default prefetch size (4KB)            (DFT_PREFETCH_SZ) = 32

Default number of containers                             = 4
Default tablespace extentsize (4KB)      (DFT_EXTENT_SZ) = 32

Max number of active applications             (MAXAPPLS) = 1
Average number of active applications        (AVG_APPLS) = 1
Max DB files open per application             (MAXFILOP) = 64

Log file size (4KB)                          (LOGFILSIZ) = 1000
Number of primary log files                 (LOGPRIMARY) = 2
Number of secondary log files                (LOGSECOND) = 3
Changed path to log files                   (NEWLOGPATH) =
Path to log files                                        = /data1/cb1db/cb1/SQL00001/SQLOGDIR/
Next active log file                                     =
First active log file                                    =

Group commit count                           (MINCOMMIT) = 1
Percent log file reclaimed before soft chckpt (SOFTMAX) = 100
Log retain for recovery enabled              (LOGRETAIN) = OFF
User exit for logging enabled                 (USEREXIT) = OFF

Auto restart enabled                       (AUTORESTART) = ON
Index re-creation time                        (INDEXREC) = SYSTEM (RESTART)
Default number of loadrec sessions    (DFT_LOADREC_SES) = 1
Recovery history retention (days)      (REC_HIS_RETENTN) = 366
```

A.7 Customer Benchmark 2

A.7.1 CB2 Query Descriptions

Figure 18 (Page 1 of 8). CB2 Query Descriptions

Query Number	Description
1	SELECT * FROM T1K WHERE PK BETWEEN 880 AND 880+99;
2	SELECT DISTINCT N2,STR52C,N4 FROM T10K WHERE N100 BETWEEN 1 AND 1+9;
3	SELECT * FROM T100K WHERE N1000 >= 1 AND N1000 <= 1+9;
4	SELECT COUNT(*),N1000,MIN(SK),MAX(SK),AVG(N1000) FROM T10K WHERE PK BETWEEN 930 AND 930+999 GROUP BY N1000 ORDER BY 3;
5	SELECT * FROM T100K WHERE ASKEW = 85 AND STR1A = 'B' AND N1000 = 85;
6	SELECT MIN(N5000) FROM T10K WHERE N10 = 0 GROUP BY N100;
7	SELECT SK,PK FROM T10K WHERE PK BETWEEN 8720 AND 8720+9 ORDER BY SK;
8	SELECT DISTINCT T0.N2,T1.STR52C,T0.N4 FROM T10K T0,T10K3 T1 WHERE T0.SK = T1.N100 AND T0.N1000 BETWEEN 93 AND 93+99;
9	SELECT DISTINCT N2,N4,STR52C FROM T10K WHERE STR3A BETWEEN 'LBA' AND 'LFP';
10	SELECT * FROM T100K WHERE PK BETWEEN 7890 AND 7890+99;
11	SELECT DISTINCT N10,N20,N100 FROM T10K WHERE SK BETWEEN 1440 AND 1440+999;
12	SELECT * FROM T100K WHERE STR3A >= 'CAA' AND STR3A <= 'CEM';
13	SELECT COUNT(*),N10 FROM T10K WHERE N1000 = 84 GROUP BY N10;
14	SELECT * FROM T100K WHERE ASKEW = 33 AND PK BETWEEN 33 AND 33+999;
15	SELECT AVG(N5000) FROM T10K WHERE N10 = 0 GROUP BY N100;
16	SELECT SK,PK FROM T10K WHERE PK BETWEEN 2400 AND 2400+999 ORDER BY SK;
17	SELECT * FROM T500K A, T100K B,T10K C,T1K D WHERE D.PK < 1000 AND A.PK = B.PK AND B.PK = C.PK AND C.PK = D.PK;
18	SELECT DISTINCT N2,N4,STR52C FROM T10K WHERE STR3A BETWEEN 'EBA' AND 'GFF';
19	SELECT * FROM T100K WHERE PK BETWEEN 7030 AND 7030+999;
20	SELECT DISTINCT N10,N20,N100 FROM T10K WHERE SK BETWEEN 2010 AND 2010+999 ORDER BY N100;
21	SELECT * FROM T10K WHERE STR3A = 'KBC';
22	SELECT COUNT(*),N10,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE N1000 = 4 GROUP BY N10;
23	SELECT * FROM T100K WHERE ASKEW = 26 AND SK BETWEEN 26 AND 26+999;
24	SELECT SUM(N5000) FROM T10K WHERE N100 = 7 GROUP BY N100;
25	SELECT PK,SK,N4,N10,N100,N1000 FROM T10K WHERE PK BETWEEN 6400 AND 6400+99 ORDER BY SK;
26	SELECT DISTINCT N10 FROM T1K WHERE SK = 670 AND STR1B = 'Z';

Figure 18 (Page 2 of 8). CB2 Query Descriptions

Query Number	Description
27	SELECT SK,PK,N10,N100,N1000,N2,N4,N100ODD FROM T10K WHERE SK = 4040;
28	SELECT * FROM T10K WHERE SK = 640;
29	SELECT COUNT(*),N100 FROM T10K3 GROUP BY N100;
30	SELECT * FROM T10K WHERE STR3A LIKE 'O%';
31	SELECT COUNT(*),SK FROM T10K WHERE N100 = 6 GROUP BY SK;
32	SELECT PK,SK FROM T100K WHERE PK = 62540;
33	SELECT * FROM T10K A, T100K B WHERE A.PK = B.PK AND A.PK BETWEEN 740 AND 740+999;
34	SELECT DISTINCT N2,N1000 FROM T10K2 WHERE N1000 = 60;
35	SELECT * FROM TL1K WHERE STR30 IS NOT NULL;
36	SELECT SK,PK FROM T10K WHERE SK BETWEEN 7070 AND 7070+9;
37	SELECT * FROM T1K WHERE SK BETWEEN 730 AND 730+9;
38	SELECT COUNT(*),N1000,MIN(SK),MAX(SK),AVG(N1000) FROM T10K2 GROUP BY N1000 ORDER BY 3;
39	SELECT * FROM T10K WHERE STR3A BETWEEN 'GBA' AND 'GFP';
40	SELECT COUNT(*),N10 FROM T10K WHERE N1000 BETWEEN 93 AND 93+9 GROUP BY N10;
41	SELECT PK,N2,N4,N10,N1000 FROM T100K WHERE PK = 71660;
42	SELECT * FROM T1K A, T10K B,T100K C WHERE A.PK = B.PK AND B.PK = C.PK AND A.PK < 1000;
43	SELECT DISTINCT N2,STR52C,N4 FROM T10K2 WHERE N1000 BETWEEN 85 AND 85+9;
44	SELECT * FROM T100 WHERE SK = 10;
45	SELECT SK,PK FROM T10K WHERE SK BETWEEN 7680 AND 7680+999;
46	SELECT * FROM T100K WHERE SK BETWEEN 76210 AND 76210+9;
47	SELECT COUNT(*),N10,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE PK BETWEEN 6710 AND 6710+999 GROUP BY N10 HAVING SUM(SK) > 1000*6710 ORDER BY 5;
48	SELECT * FROM T100K WHERE PK BETWEEN 420 AND 420+99 ORDER BY PK;
49	SELECT COUNT(*),N100,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE N1000 BETWEEN 16 AND 16+9 GROUP BY N100 HAVING AVG(SK) > 5000 ORDER BY 1;
50	SELECT PK,N2,N4,N10,N1000 FROM T100K WHERE PK BETWEEN 84330 AND 84330+999;
51	SELECT * FROM T10K A, T100K B WHERE A.SK = B.SK AND A.SK BETWEEN 9720 AND 9720+999;
52	SELECT DISTINCT N2,STR52C,N4 FROM T10K3 WHERE N100 BETWEEN 5 AND 5+9;
53	SELECT * FROM T100 WHERE N5000 = 1730;
54	SELECT SK,PK,N10,N100,N1000,N2,N4,N100ODD FROM T10K WHERE SK BETWEEN 3250 AND 3250+9;
55	SELECT * FROM T10K WHERE SK BETWEEN 7050 AND 7050+99;
56	SELECT COUNT(*),N10 FROM T100K WHERE PK BETWEEN 39890 AND 39890+999 GROUP BY N10;
57	SELECT * FROM T100K WHERE PK BETWEEN 2270 AND 2270+99 ORDER BY SK;

Figure 18 (Page 3 of 8). CB2 Query Descriptions

Query Number	Description
58	SELECT COUNT(*),N100 FROM T10K WHERE N1000 BETWEEN 75 AND 75+9 GROUP BY N100;
59	SELECT PK,N2,N4,N10,N1000 FROM T10K WHERE PK BETWEEN 8980 AND 8980;
60	SELECT * FROM T10K A, T100K B WHERE A.SK = B.SK AND A.SK BETWEEN 5140 AND 5140+999 AND B.SK BETWEEN 5140 AND 5140+999;
61	SELECT DISTINCT N2,STR52C,N4 FROM T10K3 WHERE N100 BETWEEN 1 AND 1+9;
62	SELECT * FROM T1K WHERE PK = 820 AND SK = 820;
63	SELECT SK,PK,N10,N100,N1000,N2,N4,N100ODD FROM T10K WHERE SK BETWEEN 1570 AND 1570+999;
64	SELECT * FROM T10K WHERE SK BETWEEN 60 AND 60+999;
65	SELECT COUNT(*),N10,MIN(SK),MAX(SK),SUM(SK) FROM T100K WHERE PK BETWEEN 51290 AND 51290+999 GROUP BY N10;
66	SELECT * FROM T10K WHERE PK BETWEEN 3810 AND 3810+99 ORDER BY SK,STR1A,STR3A;
67	SELECT MIN(PK) FROM T10K;
68	SELECT PK,N2,N4,N10,N1000 FROM T10K WHERE PK BETWEEN 1620 AND 1620+9;
69	SELECT * FROM T100K A, TL10K B,TL10K C WHERE A.N1000 = 92 AND STR1A = ′B′ AND ASKEW = 92 AND A.N10000 = B.PK AND A.STR3B = C.STR3A;
70	SELECT DISTINCT N10,N20,N100 FROM T10K WHERE PK BETWEEN 4590 AND 4590+999;
71	SELECT * FROM T1K A, T1K B, T100 C WHERE A.PK = 850 AND B.PK = A.PK AND C.SK = 87;
72	SELECT DISTINCT N2,N1000 FROM T10K WHERE N1000 = 36;
73	SELECT * FROM T1K WHERE PK >= 490 AND PK <= 490+99;
74	SELECT COUNT(*),N100,MIN(SK),MAX(SK),AVG(SK) FROM T100K WHERE PK BETWEEN 25330 AND 25330+999 GROUP BY N100 HAVING AVG(SK) > 25330 ORDER BY 5;
75	SELECT * FROM T100K WHERE SK BETWEEN 5650 AND 5650+9 ORDER BY PK;
76	SELECT COUNT(DISTINCT PK) FROM T10K;
77	SELECT PK,N2,N4,N10,N1000 FROM T10K WHERE PK BETWEEN 3350 AND 3350+999;
78	SELECT DISTINCT T0.N2,T1.STR52C,T1.N4 FROM T10K T0,T10K1 T1 WHERE T0.PK = T1.PK AND T0.N100 BETWEEN 2 AND 2+9;
79	SELECT STR52B,SK,PK FROM T10K WHERE STR3A BETWEEN ′PBA′ AND ′PFP′ ORDER BY STR52B;
80	SELECT * FROM T10K WHERE PK = 4520;
81	SELECT DISTINCT N2,N100 FROM T10K WHERE N100 = 9;
82	SELECT * FROM T100K WHERE PK >= 55710 AND PK <= 55710+99;
83	SELECT COUNT(*),N100,MIN(SK),MAX(SK),SUM(SK) FROM T100K WHERE PK BETWEEN 17590 AND 17590+999 GROUP BY N100;

Figure 18 (Page 4 of 8). CB2 Query Descriptions	
Query Number	**Description**
84	SELECT * FROM T100K WHERE SK BETWEEN 6150 AND 6150+999 ORDER BY PK;
85	SELECT MAX(N1000) FROM T10K;
86	SELECT PK,N2,N4,N10,N1000,STR1A,STR1B,STR1C,STR3A,STR3B FROM T100K WHERE PK BETWEEN 28320 AND 28320+99;
87	SELECT * FROM T10K T0,T10K1 T1 WHERE T0.PK = T1.PK AND T0.STR3A BETWEEN 'BBA' AND 'DFF' AND T0.N10 = 1;
88	SELECT STR52B,SK,PK,STR52C,N10,N100,N1000,N2 FROM T10K WHERE STR3A < 'AAK' ORDER BY STR52B;
89	SELECT * FROM T1K WHERE PK BETWEEN 220 AND 220+9;
90	SELECT DISTINCT N2,STR52C,N4 FROM T10K WHERE N1000 BETWEEN 40 AND 40+9;
91	SELECT * FROM T100K WHERE PK < 101;
92	SELECT COUNT(*),N1000,MIN(SK),MAX(SK),SUM(SK) FROM T100K WHERE PK BETWEEN 31970 AND 31970+999 GROUP BY N1000 HAVING AVG(SK) 31970 ORDER BY 3;
93	SELECT * FROM T10K WHERE STR3A BETWEEN 'CBA' AND 'CFP' ORDER BY SK;
94	SELECT MIN(N5000) FROM T10K GROUP BY N100;
95	SELECT PK,N2,N4,N10,N1000,STR1A,STR1B,STR1C,STR3A, STR3B,STR52A, STR52B FROM T100K WHERE PK = 54040;
96	SELECT * FROM T10K T0,T10K2 T1 WHERE T0.SK = T1.N1000 AND T0.SK = 180;
97	SELECT STR52B,SK,PK,STR52C,N10,N100,N1000,N2 FROM T10K WHERE STR3A BETWEEN 'TBA' AND 'VFF' ORDER BY STR52B;
98	SELECT * FROM T100K WHERE PK BETWEEN 68740 AND 68740+9;
99	SELECT DISTINCT N2,STR52C,N4 FROM T10K WHERE N1000 BETWEEN 72 AND 72+99;
100	SELECT * FROM T100K WHERE N1000 BETWEEN 62 AND 62+9;
101	SELECT COUNT(*),N1000 FROM T100K WHERE PK BETWEEN 77220 AND 77220+999 GROUP BY N1000;
102	SELECT * FROM T10K WHERE STR3A LIKE 'C%' ORDER BY SK;
103	SELECT AVG(N5000) FROM T10K GROUP BY N100;
104	SELECT PK,N2,N4,N10,N1000,STR1A,STR1B,STR1C,STR3A, STR3B,STR52A,STR52B FROM T100K WHERE PK BETWEEN 68970 AND 68970+999;
105	SELECT * FROM T10K T0,T10K3 T1 WHERE T0.SK = T1.N100 AND T0.SK = 20;
106	SELECT DISTINCT N2,N4,STR52C FROM T100K WHERE STR3A < 'AAK';
107	SELECT * FROM T10K WHERE PK BETWEEN 1500 AND 1500+99;
108	SELECT DISTINCT N10,N20,N100 FROM T10K WHERE N1000 BETWEEN 88 AND 88+99;
109	SELECT * FROM T100K WHERE STR3A BETWEEN 'CAA' AND 'CEM';
110	SELECT COUNT(*),N10,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE N100 = 3 GROUP BY N10;
111	SELECT * FROM T100K WHERE ASKEW = -1 AND STR1A = 'B' AND N1000 = 41;

Figure 18 (Page 5 of 8). CB2 Query Descriptions

Query Number	Description
112	SELECT SUM(N5000) FROM T10K WHERE N10 = 0 GROUP BY N100;
113	SELECT SK,PK FROM T10K WHERE PK BETWEEN 4570 AND 4570+99 ORDER BY SK;
114	SELECT * FROM T10K T0,T10K2 T1 WHERE T0.PK = T1.N1000 AND T0.SK BETWEEN 8830 AND 8830+9;
115	SELECT DISTINCT N2,N4,STR52C FROM T100K WHERE STR3A BETWEEN 'LBA' AND 'LFP';
116	SELECT * FROM T10K WHERE PK BETWEEN 6930 AND 6930+999;
117	SELECT DISTINCT N10,N20,N100 FROM T10K WHERE N1000 BETWEEN 79 AND 79+99 ORDER BY N100;
118	SELECT * FROM T100K WHERE STR3A LIKE 'CA%';
119	SELECT COUNT(*),N10 FROM T10K WHERE N100 = 1 GROUP BY N10;
120	SELECT * FROM T100K WHERE ASKEW = -1 AND PK BETWEEN 680 AND 680+999;
121	SELECT MIN(N5000) FROM T10K WHERE N100 = 8 GROUP BY N100;
122	SELECT PK,SK,N4,N10,N100,N1000 FROM T10K WHERE PK BETWEEN 3430 AND 3430+9 ORDER BY SK;
123	SELECT * FROM TL100 A WHERE A.PK = 3;
124	SELECT SK,PK FROM T10K WHERE SK = 6010;
125	SELECT * FROM T1K WHERE SK = 150;
126	SELECT COUNT(*) FROM T10K;
127	SELECT * FROM T10K WHERE STR3A < 'AAK';
128	SELECT COUNT(*),SK FROM T10K WHERE N100 = 9 GROUP BY SK ORDER BY 1;
129	SELECT * FROM T100K WHERE ASKEW = -1 AND SK BETWEEN 860 AND 860+999;
130	SELECT AVG(N5000) FROM T10K WHERE N100 = 3 GROUP BY N100;
131	SELECT PK,SK,N4,N10,N100,N1000 FROM T10K WHERE PK BETWEEN 2510 AND 2510+999 ORDER BY SK;
132	SELECT * FROM TL100 WHERE STR30 like '%xAx%';
133	SELECT SK,PK FROM T10K WHERE SK BETWEEN 6260 AND 6260;
134	SELECT * FROM T100K WHERE SK = 44920;
135	SELECT COUNT(*),N1000 FROM T10K2 GROUP BY N1000;
136	SELECT * FROM T10K WHERE STR3A BETWEEN 'DBA' AND 'DBJ';
137	SELECT COUNT(*),N10 FROM T10K WHERE N100 BETWEEN 3 AND 3+9 GROUP BY N10;
138	SELECT PK,SK FROM T100K WHERE PK BETWEEN 54380 AND 54380+99;
139	SELECT * FROM T1K A, T10K B WHERE A.PK = B.PK;
140	SELECT DISTINCT N2,N100 FROM T10K3 WHERE N100 = 7;
141	SELECT * FROM TL1K WHERE STR30 IS NOT NULL;
142	SELECT SK,PK FROM T10K WHERE SK BETWEEN 3800 AND 3800+99;
143	SELECT * FROM T10K WHERE SK BETWEEN 7710 AND 7710+9;
144	SELECT COUNT(*),N10,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE PK BETWEEN 3170 AND 3170+999 GROUP BY N10 HAVING AVG(SK) > 3170;
145	SELECT * FROM T10K WHERE STR3A BETWEEN 'HBA' AND 'JFF';
146	SELECT COUNT(*),N10,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE N1000 BETWEEN 58 AND 58+99 GROUP BY N10;
147	SELECT PK,N2,N4,N10,N1000 FROM T100K WHERE PK BETWEEN 77070 AND 77070+99;

Figure 18 (Page 6 of 8). CB2 Query Descriptions	
Query Number	**Description**
148	SELECT * FROM T1K A, T10K B,T100K C,T500K D WHERE A.PK = B.PK AND B.PK = C.PK AND C.PK = D.PK AND A.PK < 1000;
149	SELECT DISTINCT N2,N100 FROM T10K3 WHERE N100 BETWEEN 2 AND 2;
150	SELECT * FROM T100 A, T1K B WHERE A.PK = B.PK AND A.PK = 30;
151	SELECT SK,PK,N10,N100,N1000,N2,N4,N100ODD FROM T10K WHERE SK BETWEEN 8630 AND 8630;
152	SELECT * FROM T1K WHERE SK BETWEEN 810 AND 810+99;
153	SELECT COUNT(*),N10 FROM T100K WHERE PK BETWEEN 61840 AND 61840+999 GROUP BY N10 HAVING AVG(SK) > 61840;
154	SELECT * FROM T100K WHERE PK BETWEEN 3860 AND 3860+999 ORDER BY PK;
155	SELECT COUNT(*),N100,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE N1000 BETWEEN 51 AND 51+99 GROUP BY N100 HAVING AVG(SK) > 5000 ORDER BY 1;
156	SELECT PK,N2,N4,N10,N1000 FROM T10K WHERE PK = 5930;
157	SELECT * FROM T1K A, T10K B WHERE A.SK = B.SK;
158	SELECT DISTINCT N2,STR52C,N4 FROM T10K2 WHERE N1000 BETWEEN 67 AND 67+99;
159	SELECT * FROM T100 WHERE PK = 90;
160	SELECT SK,PK,N10,N100,N1000,N2,N4,N100ODD FROM T10K WHERE SK BETWEEN 9810 AND 9810+99;
161	SELECT * FROM T100K WHERE SK BETWEEN 91050 AND 91050+99;
162	SELECT COUNT(*),N10 FROM T100K WHERE PK BETWEEN 81160 AND 81160+999 GROUP BY N10 ORDER BY 1;
163	SELECT * FROM T100K WHERE PK BETWEEN 3050 AND 3050+999 ORDER BY SK;
164	SELECT COUNT(*),N100,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE N1000 BETWEEN 43 AND 43+9 GROUP BY N100;
165	SELECT PK,N2,N4,N10,N1000 FROM T10K WHERE PK > 1200 AND PK <= 1200+1;
166	SELECT * FROM T100K A, TL1K B,TL10K C,TL10K D WHERE A.N1000 = 97 AND A.N10 = B.PK AND N10000 = C.PK AND A.STR3B = D.STR3A;
167	SELECT DISTINCT N10,N20,N100 FROM T10K2 WHERE N1000 BETWEEN 76 AND 76+99;
168	SELECT * FROM T10K WHERE PK = 8290 AND SK = 8290;
169	SELECT SK,PK,N10,N100,N1000,N2,N4,N100ODD FROM T10K WHERE SK BETWEEN 1340 AND 1340+999 ORDER BY PK;
170	SELECT * FROM T100K WHERE SK BETWEEN 32790 AND 32790+999;
171	SELECT COUNT(*),N100 FROM T100K WHERE PK BETWEEN 91010 AND 91010+999 GROUP BY N100 HAVING AVG(SK) > 91010;
172	SELECT * FROM T10K WHERE PK BETWEEN 7750 AND 7750+999 ORDER BY SK,STR1A,STR3A;
173	SELECT MAX(PK) FROM T10K;
174	SELECT PK,N2,N4,N10,N1000 FROM T10K WHERE PK BETWEEN 2690 AND 2690+99;

Figure 18 (Page 7 of 8). CB2 Query Descriptions

Query Number	Description
175	SELECT * FROM T10K T0,T10K1 T1 WHERE T0.PK = T1.PK AND T0.N1000 = 50;
176	SELECT DISTINCT N10,N20,N100 FROM T10K WHERE PK BETWEEN 6380 AND 6380+999 ORDER BY N100;
177	SELECT * FROM T1K WHERE PK = 830;
178	SELECT DISTINCT N2,N1000 FROM T100K WHERE N1000 = 9;
179	SELECT * FROM T10K WHERE PK >= 5650 AND PK <= 5650+99;
180	SELECT COUNT(*),N100 FROM T100K WHERE PK BETWEEN 17680 AND 17680+999 GROUP BY N100;
181	SELECT * FROM T100K WHERE SK BETWEEN 4760 AND 4760+99 ORDER BY PK;
182	SELECT MIN(N1000) FROM T10K;
183	SELECT PK,N2,N4,N10,N1000,STR1A,STR1B,STR1C,STR3A,STR3B FROM T100K WHERE PK = 74760;
184	SELECT * FROM T10K T0,T10K1 T1 WHERE T0.PK = T1.PK AND T0.STR3A BETWEEN 'BBA' AND 'BFP' AND T0.N10 = 1;
185	SELECT STR52B,SK,PK FROM T10K WHERE STR3A BETWEEN 'BBA' AND 'DFF' ORDER BY STR52B;
186	SELECT * FROM T100K WHERE PK = 50900;
187	SELECT DISTINCT N2,N10 FROM T10K WHERE N10 = 1;
188	SELECT * FROM T10K WHERE PK < 101;
189	SELECT COUNT(*),N100 FROM T100K WHERE PK BETWEEN 95750 AND 95750+999 GROUP BY N100 ORDER BY 1;
190	SELECT * FROM T10K WHERE STR3A < 'AAK' ORDER BY SK;
191	SELECT COUNT(DISTINCT N1000) FROM T10K;
192	SELECT PK,N2,N4,N10,N1000,STR1A,STR1B,STR1C,STR3A,STR3B FROM T100K WHERE PK BETWEEN 98790 AND 98790+999;
193	SELECT * FROM T10K T0,T10K1 T1 WHERE T0.SK = T1.PK AND T0.N10 = 1;
194	SELECT STR52B,SK,PK,STR52C,N10,N100,N1000,N2 FROM T10K WHERE STR3A BETWEEN 'NBA' AND 'NFP' ORDER BY STR52B;
195	SELECT * FROM T10K WHERE PK BETWEEN 6030 AND 6030+9;
196	SELECT DISTINCT N2,STR52C,N4 FROM T10K WHERE N100 BETWEEN 3 AND 3+9;
197	SELECT * FROM T100K WHERE N100 = 3;
198	SELECT COUNT(*),N1000,MIN(SK),MAX(SK),SUM(SK) FROM T100K WHERE PK BETWEEN 17750 AND 17750+999 GROUP BY N1000;
199	SELECT * FROM T10K WHERE STR3A BETWEEN 'RBA' AND 'TDF' ORDER BY SK;
200	SELECT SUM(N5000) FROM T10K GROUP BY N100;
201	SELECT PK,N2,N4,N10,N1000,STR1A,STR1B,STR1C,STR3A, STR3B,STR52A,STR52B FROM T100K WHERE PK BETWEEN 23910 AND 23910+99;
202	SELECT DISTINCT T0.N2,T1.STR52C,T1.N4 FROM T10K T0,T10K2 T1 WHERE T0.SK = T1.N1000 AND T0.STR3A BETWEEN 'BBA' AND 'BFP';
203	SELECT DISTINCT N2,N4,STR52C FROM T10K WHERE STR3A < 'AAK';
204 (36a)	SELECT SK,PK FROM T10K WHERE SK BETWEEN 7070 AND 7079;

Figure 18 (Page 8 of 8). CB2 Query Descriptions

Query Number	Description
205 (36b)	SELECT SK,PK FROM T10K WHERE SK BETWEEN 7070 AND 7070+999;
206 (49a)	SELECT COUNT(*),N100,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE N1000 BETWEEN 16 AND 25 GROUP BY N100 HAVING AVG(SK) > 5000 ORDER BY 1;
207 (49b)	SELECT COUNT(*),N100,MIN(SK),MAX(SK),SUM(SK) FROM T10K WHERE N1000 BETWEEN 16 AND 16+99 GROUP BY N100 HAVING AVG(SK) > 5000 ORDER BY 1;
208 (55a)	SELECT * FROM T10K WHERE SK BETWEEN 7050 AND 7149;
209 (55b)	SELECT * FROM T10K WHERE SK BETWEEN 7050 AND 7050+999;
210 (114a)	SELECT * FROM T10K T0,T10K2 T1 WHERE T0.PK = T1.N1000 AND T0.SK BETWEEN 8830 AND 8839;
211 (114b)	SELECT * FROM T10K T0,T10K2 T1 WHERE T0.PK = T1.N1000 AND T0.SK BETWEEN 8830 AND 8830+999;
212 (142a)	SELECT SK,PK FROM T10K WHERE SK BETWEEN 3800 AND 3899;
213 (142b)	SELECT SK,PK FROM T10K WHERE SK BETWEEN 3800 AND 3800+999;
214 (143a)	SELECT * FROM T10K WHERE SK BETWEEN 7710 AND 7719;
215 (143b)	SELECT * FROM T10K WHERE SK BETWEEN 7710 AND 7710+999;

Query	Rows Returned
1	100
2	8
3	1000
4	930
5	0
6	100
7	10
8	8
9	4
10	100
11	879
12	1010
13	1
14	0
15	100
16	1000
17	1000
18	8
19	1000
20	879
21	1
22	1
23	0
24	1
25	100
26	0
27	1
28	1
29	100
30	484
31	100
32	1
33	1000
34	1
35	1000
36	10
37	10
38	1000
39	104
40	10
41	1
42	1000
43	8
44	1
45	1000
46	12
47	0
48	100
49	48
50	1000
51	280
52	8
53	0
54	10
55	100
56	10
57	100
58	91
59	1
60	999
61	8
62	0
63	1000
64	1000
65	10
66	100
67	1
68	10
69	0
70	200
71	1
72	1
73	100
74	100
75	11
76	1
77	1000
78	8
79	104
80	1
81	2
82	100
83	100
84	1000
85	1
86	100
87	106
88	10
89	10
90	8

Figure 19 (Part 1 of 3). CB2 Rows Returned

Query	Rows Returned
91	101
92	666
93	104
94	100
95	1
96	10
97	782
98	10
99	8
100	1000
101	780
102	484
103	100
104	1000
105	100
106	8
107	100
108	1000
109	1010
110	10
111	4
112	100
113	100
114	20
115	8
116	1000
117	1000
118	220
119	10
120	814
121	1
122	10
123	1
124	1
125	1
126	1
127	10
128	100
129	786
130	1
131	1000
132	22
133	1
134	1
135	1000
136	10
137	10
138	100
139	1000
140	2
141	1000
142	100
143	10
144	10
145	1062
146	10
147	100
148	1000
149	2
150	1
151	1
152	100
153	0
154	1000
155	49
156	1
157	1000
158	8
159	1
160	100
161	99
162	10
163	1000
164	91
165	1
166	95
167	1000
168	0
169	1000
170	1000
171	0
172	1000
173	1
174	100
175	10
176	200
177	1
178	1
179	100
180	100

Figure 19 (Part 2 of 3). CB2 Rows Returned

Query	Rows Returned
181	99
182	1
183	1
184	11
185	1062
186	1
187	1
188	101
189	100
190	10
191	1
192	1000
193	1000
194	104
195	10
196	8
197	1000
198	750
199	1018
200	100
201	100
202	8
203	4

Figure 19 (Part 3 of 3). CB2 Rows Returned

A.7.2 CB2 Table Descriptions

Figure 20 (Page 1 of 2). Database Characteristics

TableName	RowSize*	Rows	DataBytes (MB)	Columns	IndexName	KeyLth	Unique	KeyColumn(s)
Note: RowSize = Sum (Avgcollen)								
T100	264	100	0.03	24	T100_PK	4	Y	+PK
					T100_SK	4	N	+SK
T100K	264	100,000	25.18	24	T100K_PK	4	Y	+PK
					T100K_SK	4	N	+SK
					T100K_N100	4	N	+N100
					T100K_N1000	4	N	+N1000
					T100K_ASKEW	4	N	+ASKEW
					T100K_STR1A	1	N	+STR1A
					T100K_STR3A	3	N	+STR3A
T10K	264	10,000	2.52	24	T10K_PK	4	Y	+PK
					T10K_SK	4	N	+SK
					T10K_N100	4	N	+N100
					T10K_N1000	4	N	+N1000
					T10K_ASKEW	4	N	+ASKEW
					T10K_STR1A	1	N	+STR1A
					T10K_STR3A	3	N	+STR3A
T10K1	264	10,000	2.52	24	T10K1_PK	4	N	+PK
					T10K1_SK	4	N	+SK
					T10K1_N100	4	N	+N100
					T10K1_N1000	4	N	+N1000
					T10K1_ASKEW	4	N	+ASKEW
					T10K1_STR1A	1	N	+STR1A
					T10K1_STR3A	3	N	+STR3A
T10K2	264	10,000	2.52	24	T10K2_PK	4	N	+PK
					T10K2_SK	4	N	+SK
					T10K2_N100	4	N	+N100
T10K3	264	10,000	2.52	24	T10K3_PK	4	N	+PK
					T10K3_SK	4	N	+SK
					T10K3_N100	4	N	+N100

Figure 20 (Page 2 of 2). Database Characteristics

TableName	RowSize*	Rows	DataBytes (MB)	Columns	IndexName	KeyLth	Unique	KeyColumn(s)
T1K	264	1,000	0.25	24	T1K_PK	4	Y	+PK
					T1K_SK	4	N	+SK
					T1K_N100	4	N	+N100
T500K	264	100,000	25.18	24	T500K_PK	4	N	+PK
					T500K_SK	4	N	+SK
TL100	38	100	0.01	2	TL100_PK	4	Y	+PK
TL10K	49	10,000	0.47	4	TL10K_PK	4	Y	+PK
					TL10K_SK	4	N	+SK
					TL10K_STR3A	3	N	+STR3A
TL1K	45	1,000	0.04	4	TL1K_PK	4	Y	+PK
Total			61.24					

Note: Total Data Size (npage) = 68.0 MB, Total Indexes Size (nleaf) = 10.1 MB.

A.7.3 CB2 Statistics on Database Tables and Indexes

```
select name, fid, card, colcount, npages, fpages, overflow from sysibm.systables where creator = 'CB2' order by name
```

NAME	FID	CARD	COLCOUNT	NPAGES	FPAGES	OVERFLOW
T100	2	100	24	8	8	0
T100K	5	100000	24	7147	7147	0
T10K	4	10000	24	715	715	0
T10K1	6	10000	24	715	715	0
T10K2	7	10000	24	715	715	0
T10K3	8	10000	24	715	715	0
T1K	3	1000	24	72	72	0
T500K	12	100000	24	7147	7147	0
TL100	9	100	2	2	2	0
TL10K	11	10000	4	148	148	0
TL1K	10	1000	3	14	14	0

11 record(s) selected.

```
select sum(npages), sum(fpages) from sysibm.systables where creator = 'CB2'
```

1	2
17398	17398

1 record(s) selected.

```
select name, tbname, uniquerule, nleaf, nlevels, firstkeycard, fullkeycard, clusterratio, clusterfactor, substr(colnames,1,30), colcount from sysibm.sysindexes where tbcreator = 'CB2' order by tbname
```

NAME	TBNAME	UNIQUERULE	NLEAF	NLEVELS	FIRSTKEYCARD	FULLKEYCARD	CLUSTERRATIO	CLUSTERFACTOR	10	COLCOUNT
T100_PK	T100	U	1	1	100	100	100	-1.00000000000000E+000	+PK	1
T100_SK	T100	D	1	1	100	100	8	-1.00000000000000E+000	+SK	1
T100K_PK	T100K	U	335	3	100000	100000	-1	+1.00000000000000E+000	+PK	1
T100K_SK	T100K	D	296	3	80774	80774	-1	+0.00000000000000E+000	+SK	1
T100K_N100	T100K	D	135	2	100	100	-1	+0.00000000000000E+000	+N100	1
T100K_N1000	T100K	D	136	2	1000	1000	-1	+0.00000000000000E+000	+N1000	1
T100K_ASKEW	T100K	D	136	2	1001	1001	-1	+7.88095161168729E-001	+ASKEW	1
T100K_STR1A	T100K	D	144	2	22	22	-1	+9.97932215437304E-001	+STR1A	1
T100K_STR3A	T100K	D	167	2	10648	10648	-1	+9.99903072598623E-001	+STR3A	1
T10K_PK10	T10K	U	34	2	10000	10000	-1	+1.00000000000000E+000	+PK	1
T10K_SK10	T10K	D	34	2	10000	10000	-1	+0.00000000000000E+000	+SK	1
T10K_N100	T10K	D	14	2	100	100	-1	+0.00000000000000E+000	+N100	1
T10K_N1000	T10K	D	16	2	1000	1000	-1	+0.00000000000000E+000	+N1000	1
T10K_ASKEW	T10K	D	16	2	861	861	-1	+7.87075928917609E-001	+ASKEW	1
T10K_STR1A	T10K	D	15	2	21	21	-1	+1.00000000000000E+000	+STR1A	1
T10K_STR3A	T10K	D	36	2	10000	10000	-1	+1.00000000000000E+000	+STR3A	1
T10K1_PK	T10K1	U	34	2	10000	10000	-1	+1.00000000000000E+000	+PK	1
T10K1_SK	T10K1	D	34	2	10000	10000	-1	+0.00000000000000E+000	+SK	1
T10K1_N100	T10K1	D	14	2	100	100	-1	+0.00000000000000E+000	+N100	1
T10K1_N1000	T10K1	D	16	2	1000	1000	-1	+0.00000000000000E+000	+N1000	1
T10K1_ASKEW	T10K1	D	16	2	861	861	-1	+7.87075928917609E-001	+ASKEW	1
T10K1_STR1A	T10K1	D	15	2	21	21	-1	+1.00000000000000E+000	+STR1A	1
T10K1_STR3A	T10K1	D	36	2	10000	10000	-1	+1.00000000000000E+000	+STR3A	1
T10K2_PK	T10K2	D	34	2	10000	10000	-1	+1.00000000000000E+000	+PK	1
T10K2_SK	T10K2	D	34	2	10000	10000	-1	+0.00000000000000E+000	+SK	1
T10K2_N1000	T10K2	D	16	2	1000	1000	-1	+0.00000000000000E+000	+N1000	1
T10K3_PK	T10K3	D	34	2	10000	10000	-1	+1.00000000000000E+000	+PK	1
T10K3_SK	T10K3	D	34	2	10000	10000	-1	+0.00000000000000E+000	+SK	1
T10K3_N100	T10K3	D	14	2	100	100	-1	+0.00000000000000E+000	+N100	1
T1K_PK	T1K	U	4	2	1000	1000	-1	+1.00000000000000E+000	+PK	1
T1K_SK	T1K	D	4	2	1000	1000	-1	+5.32327586206896E-001	+SK	1
T1K_N100	T1K	D	2	2	100	100	-1	+0.00000000000000E+000	+N100	1
T500K_PK	T500K	D	335	3	100000	100000	-1	+1.00000000000000E+000	+PK	1
T500K_SK	T500K	D	297	3	81189	81189	-1	+0.00000000000000E+000	+SK	1
TL100_PK	TL100	U	1	1	100	100	100	-1.00000000000000E+000	+PK	1
TL10K_PK	TL10K	U	34	2	10000	10000	-1	+1.00000000000000E+000	+PK	1
TL10K_SK	TL10K	D	34	2	10000	10000	-1	+1.00000000000000E+000	+SK	1
TL10K_STR3A	TL10K	D	36	2	10000	10000	-1	+1.00000000000000E+000	+STR3A	1
TL1K_PK	TL1K	U	4	2	1000	1000	100	-1.00000000000000E+000	+PK	1

39 record(s) selected.

```
select sum(nleaf) from sysibm.sysindexes where creator = 'CB2'
```

1
2598

1 record(s) selected.

Figure 21 (Part 1 of 4). CB2 Database Statistics

select tbname, name, colno, coltype, nulls, length, scale, colcard, high2key, low2key, keyseq from sysibm.syscolumns where tbcreator = 'CB2' order by tbname, colno

TBNAME	NAME	COLNO	COLTYPE	NULLS	LENGTH	SCALE	COLCARD	HIGH2KEY	LOW2KEY	KEYSEQ
T100	PK	0	INTEGER	N	4	0	100	98	1	-
T100	SK	1	INTEGER	N	4	0	100	98	1	-
T100	N2	2	INTEGER	N	4	0	2	1	0	-
T100	N4	3	INTEGER	N	4	0	4	2	1	-
T100	N10	4	INTEGER	N	4	0	10	8	1	-
T100	N20	5	INTEGER	N	4	0	20	18	1	-
T100	N100	6	INTEGER	N	4	0	100	98	1	-
T100	N1000	7	INTEGER	N	4	0	90	958	5	-
T100	N5000	8	INTEGER	N	4	0	100	98	1	-
T100	N10000	9	INTEGER	N	4	0	100	98	1	-
T100	N100ODD	10	INTEGER	N	4	0	50	97	3	-
T100	N100EVEN	11	INTEGER	N	4	0	100	98	1	-
T100	ASKEW	12	INTEGER	N	4	0	24	980	74	-
T100	STR1A	13	VARCHAR	N	1	0	1	A	A	-
T100	STR1B	14	VARCHAR	N	1	0	5	D	B	-
T100	STR1C	15	VARCHAR	N	1	0	22	U	B	-
T100	STR1D	16	VARCHAR	N	1	0	1	A	A	-
T100	STR1E	17	VARCHAR	N	1	0	5	D	B	-
T100	STR1F	18	VARCHAR	N	1	0	22	U	B	-
T100	STR3A	19	VARCHAR	N	3	0	100	AEK	AAB	-
T100	STR3B	20	VARCHAR	N	3	0	100	AEK	AAB	-
T100	STR52A	21	VARCHAR	N	52	0	5	AxxxxxxxxxxxxxxxxxxxxxxxxxDxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T100	STR52B	22	VARCHAR	N	52	0	5	AxxxxxxxxxxxxxxxxxxxxxxxxxDxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T100	STR52C	23	VARCHAR	N	52	0	4	OxxxxxxxxxxxxxxxxxxxxxxxxxOxxxxxx	HxxxxxxxxxxxxxxxxxxxxxxxxxHxxxxxx	-
T100K	PK	0	INTEGER	N	4	0	100000	99998	1	-
T100K	SK	1	INTEGER	N	4	0	80774	99998	1	-
T100K	N2	2	INTEGER	N	4	0	2	1	0	-
T100K	N4	3	INTEGER	N	4	0	4	2	1	-
T100K	N10	4	INTEGER	N	4	0	10	8	1	-
T100K	N20	5	INTEGER	N	4	0	20	18	1	-
T100K	N100	6	INTEGER	N	4	0	100	98	1	-
T100K	N1000	7	INTEGER	N	4	0	1000	998	1	-
T100K	N5000	8	INTEGER	N	4	0	5192	4998	1	-
T100K	N10000	9	INTEGER	N	4	0	10831	9998	1	-
T100K	N100ODD	10	INTEGER	N	4	0	50	97	3	-
T100K	N100EVEN	11	INTEGER	N	4	0	100	98	1	-
T100K	ASKEW	12	INTEGER	N	4	0	1001	998	0	-
T100K	STR1A	13	VARCHAR	N	1	0	22	U	B	-
T100K	STR1B	14	VARCHAR	N	1	0	22	U	B	-
T100K	STR1C	15	VARCHAR	N	1	0	22	U	B	-
T100K	STR1D	16	VARCHAR	N	1	0	22	U	B	-
T100K	STR1E	17	VARCHAR	N	1	0	22	U	B	-
T100K	STR1F	18	VARCHAR	N	1	0	22	U	B	-
T100K	STR3A	19	VARCHAR	N	3	0	10648	VVU	AAB	-
T100K	STR3B	20	VARCHAR	N	3	0	11591	VVU	AAB	-
T100K	STR52A	21	VARCHAR	N	52	0	464	VxxxxxxxxxxxxxxxxxxxxxxxxxUxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T100K	STR52B	22	VARCHAR	N	52	0	464	VxxxxxxxxxxxxxxxxxxxxxxxxxUxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T100K	STR52C	23	VARCHAR	N	52	0	4	OxxxxxxxxxxxxxxxxxxxxxxxxxOxxxxxx	HxxxxxxxxxxxxxxxxxxxxxxxxxHxxxxxx	-
T10K	PK	0	INTEGER	N	4	0	10000	9998	1	-
T10K	SK	1	INTEGER	N	4	0	10000	9998	1	-
T10K	N2	2	INTEGER	N	4	0	2	1	0	-
T10K	N4	3	INTEGER	N	4	0	4	2	1	-
T10K	N10	4	INTEGER	N	4	0	10	8	1	-
T10K	N20	5	INTEGER	N	4	0	20	18	1	-
T10K	N100	6	INTEGER	N	4	0	100	98	1	-
T10K	N1000	7	INTEGER	N	4	0	1000	998	1	-
T10K	N5000	8	INTEGER	N	4	0	5192	4998	1	-
T10K	N10000	9	INTEGER	N	4	0	10000	9998	1	-
T10K	N100ODD	10	INTEGER	N	4	0	50	97	3	-
T10K	N100EVEN	11	INTEGER	N	4	0	100	98	1	-
T10K	ASKEW	12	INTEGER	N	4	0	861	997	0	-
T10K	STR1A	13	VARCHAR	N	1	0	21	T	B	-
T10K	STR1B	14	VARCHAR	N	1	0	22	U	B	-
T10K	STR1C	15	VARCHAR	N	1	0	22	U	B	-
T10K	STR1D	16	VARCHAR	N	1	0	21	T	B	-
T10K	STR1E	17	VARCHAR	N	1	0	22	U	B	-
T10K	STR1F	18	VARCHAR	N	1	0	22	U	B	-
T10K	STR3A	19	VARCHAR	N	3	0	10000	UOK	AAB	-
T10K	STR3B	20	VARCHAR	N	3	0	10000	UOK	AAB	-
T10K	STR52A	21	VARCHAR	N	52	0	448	UxxxxxxxxxxxxxxxxxxxxxxxxxNxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T10K	STR52B	22	VARCHAR	N	52	0	448	UxxxxxxxxxxxxxxxxxxxxxxxxxNxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T10K	STR52C	23	VARCHAR	N	52	0	4	OxxxxxxxxxxxxxxxxxxxxxxxxxOxxxxxx	HxxxxxxxxxxxxxxxxxxxxxxxxxHxxxxxx	-

Figure 21 (Part 2 of 4). CB2 Database Statistics

T10K1	PK	0	INTEGER	N	4	0	10000	9998	1	-
T10K1	SK	1	INTEGER	N	4	0	10000	9998	1	-
T10K1	N2	2	INTEGER	N	4	0	2	1	0	-
T10K1	N4	3	INTEGER	N	4	0	4	2	1	-
T10K1	N10	4	INTEGER	N	4	0	10	8	1	-
T10K1	N20	5	INTEGER	N	4	0	20	18	1	-
T10K1	N100	6	INTEGER	N	4	0	100	98	1	-
T10K1	N1000	7	INTEGER	N	4	0	1000	998	1	-
T10K1	N5000	8	INTEGER	N	4	0	5192	4998	1	-
T10K1	N10000	9	INTEGER	N	4	0	10000	9998	1	-
T10K1	N100ODD	10	INTEGER	N	4	0	50	97	3	-
T10K1	N100EVEN	11	INTEGER	N	4	0	100	98	1	-
T10K1	ASKEW	12	INTEGER	N	4	0	861	997	0	-
T10K1	STR1A	13	VARCHAR	N	1	0	21	T	B	-
T10K1	STR1B	14	VARCHAR	N	1	0	22	U	B	-
T10K1	STR1C	15	VARCHAR	N	1	0	22	U	B	-
T10K1	STR1D	16	VARCHAR	N	1	0	21	T	B	-
T10K1	STR1E	17	VARCHAR	N	1	0	22	U	B	-
T10K1	STR1F	18	VARCHAR	N	1	0	22	U	B	-
T10K1	STR3A	19	VARCHAR	N	3	0	10000	UOK	AAB	-
T10K1	STR3B	20	VARCHAR	N	3	0	10000	UOK	AAB	-
T10K1	STR52A	21	VARCHAR	N	52	0	448	UxxxxxxxxxxxxxxxxxxxxxxxxxNxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T10K1	STR52B	22	VARCHAR	N	52	0	448	UxxxxxxxxxxxxxxxxxxxxxxxxxNxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T10K1	STR52C	23	VARCHAR	N	52	0	4	OxxxxxxxxxxxxxxxxxxxxxxxxxOxxxxxx	HxxxxxxxxxxxxxxxxxxxxxxxxxHxxxxxx	-
T10K2	PK	0	INTEGER	N	4	0	10000	9998	1	-
T10K2	SK	1	INTEGER	N	4	0	10000	9998	1	-
T10K2	N2	2	INTEGER	N	4	0	2	1	0	-
T10K2	N4	3	INTEGER	N	4	0	4	2	1	-
T10K2	N10	4	INTEGER	N	4	0	10	8	1	-
T10K2	N20	5	INTEGER	N	4	0	20	18	1	-
T10K2	N100	6	INTEGER	N	4	0	100	98	1	-
T10K2	N1000	7	INTEGER	N	4	0	1000	998	1	-
T10K2	N5000	8	INTEGER	N	4	0	5192	4998	1	-
T10K2	N10000	9	INTEGER	N	4	0	10000	9998	1	-
T10K2	N100ODD	10	INTEGER	N	4	0	50	97	3	-
T10K2	N100EVEN	11	INTEGER	N	4	0	100	98	1	-
T10K2	ASKEW	12	INTEGER	N	4	0	928	997	0	-
T10K2	STR1A	13	VARCHAR	N	1	0	21	T	B	-
T10K2	STR1B	14	VARCHAR	N	1	0	22	U	B	-
T10K2	STR1C	15	VARCHAR	N	1	0	22	U	B	-
T10K2	STR1D	16	VARCHAR	N	1	0	21	T	B	-
T10K2	STR1E	17	VARCHAR	N	1	0	22	U	B	-
T10K2	STR1F	18	VARCHAR	N	1	0	22	U	B	-
T10K2	STR3A	19	VARCHAR	N	3	0	10000	UOK	AAB	-
T10K2	STR3B	20	VARCHAR	N	3	0	10000	UOK	AAB	-
T10K2	STR52A	21	VARCHAR	N	52	0	448	UxxxxxxxxxxxxxxxxxxxxxxxxxNxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T10K2	STR52B	22	VARCHAR	N	52	0	448	UxxxxxxxxxxxxxxxxxxxxxxxxxNxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T10K2	STR52C	23	VARCHAR	N	52	0	4	OxxxxxxxxxxxxxxxxxxxxxxxxxOxxxxxx	HxxxxxxxxxxxxxxxxxxxxxxxxxHxxxxxx	-
T10K3	PK	0	INTEGER	N	4	0	10000	9998	1	-
T10K3	SK	1	INTEGER	N	4	0	10000	9998	1	-
T10K3	N2	2	INTEGER	N	4	0	2	1	0	-
T10K3	N4	3	INTEGER	N	4	0	4	2	1	-
T10K3	N10	4	INTEGER	N	4	0	10	8	1	-
T10K3	N20	5	INTEGER	N	4	0	20	18	1	-
T10K3	N100	6	INTEGER	N	4	0	100	98	1	-
T10K3	N1000	7	INTEGER	N	4	0	1008	998	1	-
T10K3	N5000	8	INTEGER	N	4	0	5192	4998	1	-
T10K3	N10000	9	INTEGER	N	4	0	10000	9998	1	-
T10K3	N100ODD	10	INTEGER	N	4	0	50	97	3	-
T10K3	N100EVEN	11	INTEGER	N	4	0	100	98	1	-
T10K3	ASKEW	12	INTEGER	N	4	0	928	997	0	-
T10K3	STR1A	13	VARCHAR	N	1	0	21	T	B	-
T10K3	STR1B	14	VARCHAR	N	1	0	22	U	B	-
T10K3	STR1C	15	VARCHAR	N	1	0	22	U	B	-
T10K3	STR1D	16	VARCHAR	N	1	0	21	T	B	-
T10K3	STR1E	17	VARCHAR	N	1	0	22	U	B	-
T10K3	STR1F	18	VARCHAR	N	1	0	22	U	B	-
T10K3	STR3A	19	VARCHAR	N	3	0	10000	UOK	AAB	-
T10K3	STR3B	20	VARCHAR	N	3	0	10000	UOK	AAB	-
T10K3	STR52A	21	VARCHAR	N	52	0	448	UxxxxxxxxxxxxxxxxxxxxxxxxxNxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T10K3	STR52B	22	VARCHAR	N	52	0	448	UxxxxxxxxxxxxxxxxxxxxxxxxxNxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T10K3	STR52C	23	VARCHAR	N	52	0	4	OxxxxxxxxxxxxxxxxxxxxxxxxxOxxxxxx	HxxxxxxxxxxxxxxxxxxxxxxxxxHxxxxxx	-

Figure 21 (Part 3 of 4). CB2 Database Statistics

T1K	PK	0	INTEGER	N	4	0	1000	998	1	-
T1K	SK	1	INTEGER	N	4	0	1000	998	1	-
T1K	N2	2	INTEGER	N	4	0	2	1	0	-
T1K	N4	3	INTEGER	N	4	0	4	2	1	-
T1K	N10	4	INTEGER	N	4	0	10	8	1	-
T1K	N20	5	INTEGER	N	4	0	20	18	1	-
T1K	N100	6	INTEGER	N	4	0	100	98	1	-
T1K	N1000	7	INTEGER	N	4	0	1000	998	1	-
T1K	N5000	8	INTEGER	N	4	0	1000	998	1	-
T1K	N10000	9	INTEGER	N	4	0	1000	998	1	-
T1K	N100ODD	10	INTEGER	N	4	0	50	97	3	-
T1K	N100EVEN	11	INTEGER	N	4	0	100	98	1	-
T1K	ASKEW	12	INTEGER	N	4	0	196	974	6	-
T1K	STR1A	13	VARCHAR	N	1	0	3	C	A	-
T1K	STR1B	14	VARCHAR	N	1	0	22	U	B	-
T1K	STR1C	15	VARCHAR	N	1	0	22	U	B	-
T1K	STR1D	16	VARCHAR	N	1	0	3	C	A	-
T1K	STR1E	17	VARCHAR	N	1	0	22	U	B	-
T1K	STR1F	18	VARCHAR	N	1	0	22	U	B	-
T1K	STR3A	19	VARCHAR	N	3	0	1000	CBI	AAB	-
T1K	STR3B	20	VARCHAR	N	3	0	1000	CBI	AAB	-
T1K	STR52A	21	VARCHAR	N	52	0	46	CxxxxxxxxxxxxxxxxxxxxxxxxxAxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T1K	STR52B	22	VARCHAR	N	52	0	46	CxxxxxxxxxxxxxxxxxxxxxxxxxAxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T1K	STR52C	23	VARCHAR	N	52	0	4	OxxxxxxxxxxxxxxxxxxxxxxxxxOxxxxxx	HxxxxxxxxxxxxxxxxxxxxxxxxxHxxxxxx	-
T500K	PK	0	INTEGER	N	4	0	100000	99998	1	-
T500K	SK	1	INTEGER	N	4	0	81189	99997	1	-
T500K	N2	2	INTEGER	N	4	0	2	1	0	-
T500K	N4	3	INTEGER	N	4	0	4	2	1	-
T500K	N10	4	INTEGER	N	4	0	10	8	1	-
T500K	N20	5	INTEGER	N	4	0	20	18	1	-
T500K	N100	6	INTEGER	N	4	0	100	98	1	-
T500K	N1000	7	INTEGER	N	4	0	1008	998	1	-
T500K	N5000	8	INTEGER	N	4	0	5192	4998	1	-
T500K	N10000	9	INTEGER	N	4	0	10831	9998	1	-
T500K	N100ODD	10	INTEGER	N	4	0	50	97	3	-
T500K	N100EVEN	11	INTEGER	N	4	0	100	98	1	-
T500K	ASKEW	12	INTEGER	N	4	0	1008	998	0	-
T500K	STR1A	13	VARCHAR	N	1	0	22	U	B	-
T500K	STR1B	14	VARCHAR	N	1	0	22	U	B	-
T500K	STR1C	15	VARCHAR	N	1	0	22	U	B	-
T500K	STR1D	16	VARCHAR	N	1	0	22	U	B	-
T500K	STR1E	17	VARCHAR	N	1	0	22	U	B	-
T500K	STR1F	18	VARCHAR	N	1	0	22	U	B	-
T500K	STR3A	19	VARCHAR	N	3	0	11591	VWU	AAB	-
T500K	STR3B	20	VARCHAR	N	3	0	11591	VWU	AAB	-
T500K	STR52A	21	VARCHAR	N	52	0	464	VxxxxxxxxxxxxxxxxxxxxxxxxxUxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T500K	STR52B	22	VARCHAR	N	52	0	464	VxxxxxxxxxxxxxxxxxxxxxxxxxUxxxxxx	AxxxxxxxxxxxxxxxxxxxxxxxxxBxxxxxx	-
T500K	STR52C	23	VARCHAR	N	52	0	4	OxxxxxxxxxxxxxxxxxxxxxxxxxOxxxxxx	HxxxxxxxxxxxxxxxxxxxxxxxxxHxxxxxx	-
TL100	PK	0	INTEGER	N	4	0	100	98	1	-
TL100	STR30	1	VARCHAR	N	30	0	100	AxxxxxxxxxxxxxxExxxxxxxxxxxxxK	AxxxxxxxxxxxxxxAxxxxxxxxxxxxxB	-
TL10K	PK	0	INTEGER	N	4	0	10000	9998	1	-
TL10K	SK	1	INTEGER	N	4	0	10000	9998	1	-
TL10K	STR3A	2	VARCHAR	N	3	0	10000	UOK	AAB	-
TL10K	STR30	3	VARCHAR	N	30	0	9634	UxxxxxxxxxxxxxxOxxxxxxxxxxxxxK	AxxxxxxxxxxxxxxAxxxxxxxxxxxxxB	-
TL1K	PK	0	INTEGER	N	4	0	1000	998	1	-
TL1K	STR3A	1	VARCHAR	N	3	0	1000	CBI	AAB	-
TL1K	STR30	2	VARCHAR	N	30	0	1000	CxxxxxxxxxxxxxxBxxxxxxxxxxxxxI	AxxxxxxxxxxxxxxAxxxxxxxxxxxxxB	-

201 record(s) selected.

Figure 21 (Part 4 of 4). CB2 Database Statistics

A.7.4 CB2 DBM and Database Configurations

```
          Database Manager Configuration

     Node type = Database Server with local clients

 Database manager configuration release level              = 0x0600

 CPU speed (millisec/instruction)              (CPUSPEED) = 3.149171e-05
 Max number of concurrently active databases       (NUMDB) = 8
 Transaction processor monitor name          (TP_MON_NAME) =

 Diagnostic error capture level                (DIAGLEVEL) = 3
 Diagnostic data directory path                 (DIAGPATH) =

 Default database monitor switches
   Buffer pool                           (DFT_MON_BUFPOOL) = OFF
   Lock                                     (DFT_MON_LOCK) = OFF
   Sort                                     (DFT_MON_SORT) = OFF
   Statement                                (DFT_MON_STMT) = OFF
   Table                                   (DFT_MON_TABLE) = OFF
   Unit of work                              (DFT_MON_UOW) = OFF

 Database monitor SQL statement size (bytes) (SQLSTMTSZ) = 256

 SYSADM group name                          (SYSADM_GROUP) =
 SYSCTRL group name                        (SYSCTRL_GROUP) =
 SYSMAINT group name                      (SYSMAINT_GROUP) =

 Database manager authentication          (AUTHENTICATION) = SERVER

 Default database path                         (DFTDBPATH) = /test/CB2

 Database monitor heap size (4KB)            (MON_HEAP_SZ) = 48
 UDF shared memory set size (4KB)             (UDF_MEM_SZ) = 256

 Backup buffer default size (4KB)              (BACKBUFSZ) = 1024
 Restore buffer default size (4KB)             (RESTBUFSZ) = 1024

 Sort heap threshold (4KB)                   (SHEAPTHRES) = 4096

 Directory cache support                       (DIR_CACHE) = YES

 Application support layer heap size (4KB)    (ASLHEAPSZ) = 15
 Max requester I/O block size (bytes)           (RQRIOBLK) = 32767
 Query heap size (4KB)                     (QUERY_HEAP_SZ) = 1000
 DRDA services heap size (4KB)              (DRDA_HEAP_SZ) = 128

 Priority of agents                             (AGENTPRI) = SYSTEM
 Max number of existing agents                 (MAXAGENTS) = 200
 Max number of concurrent agents              (MAXCAGENTS) = MAXAGENTS
 Maximum number of idle agents             (MAX_IDLEAGENTS) = 3

 Index re-creation time                         (INDEXREC) = RESTART

 Transaction manager database name           (TM_DATABASE) =
 Transaction resync interval (sec)       (RESYNC_INTERVAL) = 180

 Default accounting string               (DFT_ACCOUNT_STR) =

 Directory services type                        (DIR_TYPE) = NONE
 Directory path name                       (DIR_PATH_NAME) = /.:/subsys/database/
 Directory object name                      (DIR_OBJ_NAME) =
 Routing information object name          (ROUTE_OBJ_NAME) =
 Default client comm. protocols          (DFT_CLIENT_COMM) =
```

Figure 22 (Part 1 of 2). CB2 DBM and Database Configurations

```
get database configuration for wis

      Database Configuration for Database wis

 Database configuration release level                    = 0x0600
 Database release level                                  = 0x0600

 Database territory                                      = En_US
 Database code page                                      = 850
 Database code set                                       = IBM-850
 Database country code                                   = 1

 Directory object name                    (DIR_OBJ_NAME) =

 Backup pending                                          = NO
 Database is consistent                                  = YES
 Rollforward pending                                     = NO

 Log retain for recovery status                          = NO
 User exit for logging status                            = NO

 Number of frequent values retained      (NUM_FREQVALUES) = 10
 Number of quantiles retained             (NUM_QUANTILES) = 20

 Database heap (4KB)                            (DBHEAP) = 1200
 Catalog cache size (4KB)              (CATALOGCACHE_SZ) = 64
 Log buffer size (4KB)                        (LOGBUFSZ) = 8
 Utilities heap size (4KB)                (UTIL_HEAP_SZ) = 5000
 Buffer pool size (4KB)                       (BUFFPAGE) = 1000
 Max storage for lock lists (4KB)             (LOCKLIST) = 100

 Sort list heap (4KB)                         (SORTHEAP) = 256
 SQL statement heap (4KB)                     (STMTHEAP) = 2048
 Default application heap (4KB)             (APPLHEAPSZ) = 96
 Package cache size (4KB)                   (PCKCACHESZ) = 36
 Statistics heap size (4KB)               (STAT_HEAP_SZ) = 8030

 Interval for checking deadlock (ms)         (DLCHKTIME) = 10000
 Percent. of lock lists per application       (MAXLOCKS) = 100
 Lock timeout (sec)                        (LOCKTIMEOUT) = -1

 Changed pages threshold                (CHNGPGS_THRESH) = 60
 Number of asynchronous page cleaners   (NUM_IOCLEANERS) = 1
 Number of I/O servers                   (NUM_IOSERVERS) = 3
 Index sort flag                             (INDEXSORT) = YES
 Sequential detect flag                      (SEQDETECT) = YES
 Default prefetch size (4KB)           (DFT_PREFETCH_SZ) = 32

 Default number of containers                            = 1
 Default tablespace extentsize (4KB)     (DFT_EXTENT_SZ) = 32

 Max number of active applications            (MAXAPPLS) = 1
 Average number of active applications       (AVG_APPLS) = 1
 Max DB files open per application            (MAXFILOP) = 64

 Log file size (4KB)                         (LOGFILSIZ) = 1000
 Number of primary log files                (LOGPRIMARY) = 32
 Number of secondary log files               (LOGSECOND) = 0
 Changed path to log files                  (NEWLOGPATH) =
 Path to log files                                       = /test/CB2/CB2/SQL00001/SQLOGDIR/
 Next active log file                                    =
 First active log file                                   =

 Group commit count                          (MINCOMMIT) = 1
 Percent log file reclaimed before soft chckpt (SOFTMAX) = 100
 Log retain for recovery enabled             (LOGRETAIN) = OFF
 User exit for logging enabled                (USEREXIT) = OFF

 Auto restart enabled                      (AUTORESTART) = ON
 Index re-creation time                       (INDEXREC) = SYSTEM (RESTART)
 Default number of loadrec sessions    (DFT_LOADREC_SES) = 1
 Recovery history retention (days)     (REC_HIS_RETENTN) = 366
```

Figure 22 (Part 2 of 2). CB2 DBM and Database Configurations

Appendix B. Hardware Specifications

B.1 Configuration for machine SERVER 1 (AIX)

```
Console device   = /dev/tty0
Machine model    = RS/6000 59H, 1GB memory
OS version       = AIX 3.2.5

lsdev -C output:
===============

gsna        Available              N/A
lvdd        Available              N/A
qm          Available              N/A
sna         Available              N/A
snam        Available              N/A
snap        Available              N/A
meml0       Available 00-0F        128 MB Memory Card
meml1       Available 00-0E        128 MB Memory Card
meml2       Available 00-0D        128 MB Memory Card
meml3       Available 00-0C        128 MB Memory Card
meml4       Available 00-0B        128 MB Memory Card
meml5       Available 00-0A        128 MB Memory Card
mem8        Available 00-0H        128 MB Memory Card
mem9        Available 00-0G        128 MB Memory Card
sysplanar0  Available 00-00        CPU Planar
fpa0        Available 00-00        Floating Point Processor
ioplanar0   Available 00-00        I/O Planar
bus0        Available 00-00        Microchannel Bus
nep0        Defined   00-02        N/A
ppr0        Available 00-02        POWER Gt3 Graphics Adapter
scsi1       Available 00-06        SCSI I/O Controller
serdasda0   Available 00-03        Serial-Link Disk Adapter
sio0        Available 00-00        Standard I/O Planar
sys0        Available 00-00        System Object
sysunit0    Available 00-00        System Unit
tok0        Available 00-01        Token-Ring High-Performance Adapter
ascsi0      Available 00-08        Wide SCSI I/O Controller Adapter
siokb0      Available 00-00-0K     Keyboard Adapter
sioms0      Available 00-00-0M     Mouse Adapter
vscsi0      Available 00-08-00     SCSI I/O Controller Protocol Device
vscsi1      Available 00-08-01     SCSI I/O Controller Protocol Device
serdasdc1   Available 00-03-01     Serial-Link Eight Port Controller
serdasdc2   Available 00-03-02     Serial-Link Eight Port Controller
serdasdc3   Available 00-03-03     Serial-Link Eight Port Controller
serdasdc0   Available 00-03-00     Serial-Link Four Port Controller
fda0        Available 00-00-0D     Standard I/O Diskette Adapter
ppa0        Available 00-00-0P     Standard I/O Parallel Port Adapter
sa0         Available 00-00-S1     Standard I/O Serial Port 1
sa1         Available 00-00-S2     Standard I/O Serial Port 2
scsi0       Available 00-00-0S     Standard SCSI I/O Controller
siotb0      Available 00-00-0T     Tablet Adapter
hdisk4      Available 00-08-00-00 2.0 GB 16 Bit SCSI Disk Drive
hdisk5      Available 00-08-00-10 2.0 GB 16 Bit SCSI Disk Drive
hdisk6      Available 00-08-00-20 2.0 GB 16 Bit SCSI Disk Drive
hdisk7      Available 00-08-00-30 2.0 GB 16 Bit SCSI Disk Drive
hdisk0      Available 00-06-00-00 2.0 GB Differential SCSI Disk Drive
hdisk1      Available 00-06-00-10 2.0 GB Differential SCSI Disk Drive
hdisk2      Available 00-06-00-20 2.0 GB Differential SCSI Disk Drive
hdisk3      Available 00-06-00-30 2.0 GB Differential SCSI Disk Drive
hdisk10     Available 00-03-00-02 2.0GB Serial-Link Disk Drive
hdisk11     Available 00-03-00-03 2.0GB Serial-Link Disk Drive
hdisk15     Available 00-03-02-00 2.0GB Serial-Link Disk Drive
hdisk16     Available 00-03-02-01 2.0GB Serial-Link Disk Drive
hdisk17     Available 00-03-02-02 2.0GB Serial-Link Disk Drive
hdisk18     Available 00-03-02-03 2.0GB Serial-Link Disk Drive
hdisk19     Available 00-03-03-00 2.0GB Serial-Link Disk Drive
hdisk20     Available 00-03-03-01 2.0GB Serial-Link Disk Drive
hdisk21     Available 00-03-03-02 2.0GB Serial-Link Disk Drive
hdisk22     Available 00-03-03-03 2.0GB Serial-Link Disk Drive
hdisk23     Available 00-03-01-00 2.0GB Serial-Link Disk Drive
hdisk24     Available 00-03-01-01 2.0GB Serial-Link Disk Drive
hdisk25     Available 00-03-01-02 2.0GB Serial-Link Disk Drive
hdisk26     Available 00-03-01-03 2.0GB Serial-Link Disk Drive
hdisk8      Available 00-03-00-00 2.0GB Serial-Link Disk Drive
hdisk9      Available 00-03-00-01 2.0GB Serial-Link Disk Drive
```

Figure 23 (Part 1 of 2). SERVER 1 Configuration

```
mous0        Defined    00-00-0M-00  3 button mouse
rmt0         Defined    00-00-0S-30  5.0 GB 8mm Tape Drive
rmt1         Available  00-00-0S-50  5.0 GB 8mm Tape Drive
tty0         Available  00-00-S1-00  Asynchronous Terminal
cd0          Available  00-00-0S-60  CD-ROM Drive
dlctoken     Available               Token-Ring Data Link Control
fd0          Available  00-00-0D-00  Diskette Drive
hft0         Available               High Function Terminal Subsystem
aio0         Available               Asynchronous I/O
inet0        Available               Internet Network Extension
lo0          Available               Loopback Network Interface
hdisk12      Available  00-08-00-40  Other SCSI Disk Drive
pty0         Available               Asynchronous Pseudo-Terminal
tr0          Available               Token Ring Network Interface
kbd0         Defined    00-00-0K-00  United States keyboard
backvg       Defined                 Volume group
dbvg         Defined                 Volume group
homevg       Defined                 Volume group
page         Defined                 Volume group
perfvg       Defined                 Volume group
rootvg       Defined                 Volume group


lsattr -l sys0 -E output:
========================

dcache      128K             Size of data cache in bytes                     False
icache      32K              Size of instruction cache in bytes              False
keylock     normal           State of system keylock at boot time            False
maxmbuf     2048             Maximum Kbytes of real memory allowed for MBUFS True
maxuproc    2000             Maximum number of PROCESSES allowed per user    True
autorestart false            Automatically REBOOT system after a crash       True
iostat      true             Continuously maintain DISK I/O history          True
realmem     1048576          Amount of usable physical memory in Kbytes      False
primary     /dev/hd7         Primary dump device                             False
secondary   /dev/sysdumpnull Secondary dump device                           False
conslogin   enable           System Console Login                            False
maxpout     0                HIGH water mark for pending write I/Os per file True
minpout     0                LOW water mark for pending write I/Os per file  True
memscrub    false            Enable memory SCRUBBING                         True
logfilesize 1048576          Error log file size                             False
maxbuf      20               Maximum number of pages in block I/O BUFFER CACHE True


no -a output:
============

               dog_ticks = 60
                lowclust = 29
                 lowmbuf = 88
                 thewall = 2048
             mb_cl_hiwat = 58
               compat_43 = 1
                  sb_max = 65536
            detach_route = 1
        subnetsarelocal = 1
                  maxttl = 255
               ipfragttl = 60
         ipsendredirects = 1
            ipforwarding = 1
                 udp_ttl = 30
                 tcp_ttl = 60
              arpt_killc = 20
           tcp_sendspace = 16384
           tcp_recvspace = 16384
           udp_sendspace = 9216
           udp_recvspace = 41600
          loop_check_sum = 1
          rfc1122addrchk = 0
          nonlocsrcroute = 1
           tcp_keepintvl = 150
            tcp_keepidle = 14400
            tcp_keepinit = 150
         icmpaddressmask = 0
                 rfc1323 = 0
             tcp_mssdflt = 512
      directed_broadcast = 0
               ipqmaxlen = 50
```

Figure 23 (Part 2 of 2). SERVER 1 Configuration

B.2 Configuration for machine SERVER 2 (AIX)

```
Console device   = /dev/tty0
Machine model    = RS/6000 550, 512MB memory
OS version       = AIX 3.2.5

lsdev -C output:
===============

gsna        Available                N/A
lvdd        Available                N/A
qm          Available                N/A
sna         Available                N/A
snam        Available                N/A
snap        Available                N/A
mem0        Available 00-0A          64 MB Memory Card
mem1        Available 00-0B          64 MB Memory Card
mem2        Available 00-0C          64 MB Memory Card
mem3        Available 00-0D          64 MB Memory Card
mem4        Available 00-0E          64 MB Memory Card
mem5        Available 00-0F          64 MB Memory Card
mem6        Available 00-0G          64 MB Memory Card
mem7        Available 00-0H          64 MB Memory Card
sysplanar0  Available 00-00          CPU Planar
gda0        Available 00-07          Color Graphics Display Adapter
fpa0        Available 00-00          Floating Point Processor
ioplanar0   Available 00-00          I/O Planar
bus0        Available 00-00          Microchannel Bus
scsi0       Available 00-03          SCSI I/O Controller
scsi1       Available 00-05          SCSI I/O Controller
scsi2       Available 00-08          SCSI I/O Controller
slc0        Available 00-00          Serial Optical Link Chip
sio0        Available 00-00          Standard I/O Planar
sys0        Available 00-00          System Object
sysunit0    Available 00-00          System Unit
tok0        Available 00-06          Token-Ring High-Performance Adapter
ascsi0      Available 00-01          Wide SCSI I/O Controller Adapter
siokb0      Available 00-00-0K       Keyboard Adapter
sioms0      Available 00-00-0M       Mouse Adapter
vscsi0      Available 00-01-00       SCSI I/O Controller Protocol Device
vscsi1      Available 00-01-01       SCSI I/O Controller Protocol Device
fda0        Available 00-00-0D       Standard I/O Diskette Adapter
ppa0        Available 00-00-0P       Standard I/O Parallel Port Adapter
sa0         Available 00-00-S1       Standard I/O Serial Port 1
sa1         Available 00-00-S2       Standard I/O Serial Port 2
siotb0      Available 00-00-0T       Tablet Adapter
hdisk2      Available 00-08-00-20 1.0 GB SCSI Disk Drive
hdisk11     Available 00-08-00-40 2.0 GB SCSI Disk Drive
mous0       Defined   00-00-0M-00 3 button mouse
hdisk10     Available 00-05-00-30 670 MB SCSI Disk Drive
hdisk3      Available 00-03-00-00 670 MB SCSI Disk Drive
hdisk4      Available 00-03-00-10 670 MB SCSI Disk Drive
hdisk5      Available 00-03-00-20 670 MB SCSI Disk Drive
hdisk6      Available 00-03-00-30 670 MB SCSI Disk Drive
hdisk7      Available 00-05-00-00 670 MB SCSI Disk Drive
hdisk8      Available 00-05-00-10 670 MB SCSI Disk Drive
hdisk9      Available 00-05-00-20 670 MB SCSI Disk Drive
tty0        Available 00-00-S1-00 Asynchronous Terminal
tty1        Available 00-00-S2-00 Asynchronous Terminal
dlctoken    Available                Token-Ring Data Link Control
fd0         Available 00-00-0D-00 Diskette Drive
hft0        Available                High Function Terminal Subsystem
aio0        Available                Asynchronous I/O
lp0         Available 00-00-0P-00 IBM 4201 Model 3 Proprinter III
inet0       Available                Internet Network Extension
lo0         Available                Loopback Network Interface
hdisk12     Available 00-01-00-20 Other SCSI Disk Drive
hdisk13     Available 00-01-00-30 Other SCSI Disk Drive
pty0        Available                Asynchronous Pseudo-Terminal
tr0         Available                Token Ring Network Interface
kbd0        Defined   00-00-0K-00 United States keyboard
page        Defined                  Volume group
perfvg      Defined                  Volume group
rootvg      Defined                  Volume group
```

Figure 24 (Part 1 of 2). SERVER 2 Configuration

```
lsattr -l sys0 -E output:
========================

dcache      64K              Size of data cache in bytes                       False
icache      8K               Size of instruction cache in bytes                False
keylock     normal           State of system keylock at boot time              False
maxmbuf     2048             Maximum Kbytes of real memory allowed for MBUFS   True
maxuproc    2000             Maximum number of PROCESSES allowed per user      True
autorestart true             Automatically REBOOT system after a crash         True
iostat      true             Continuously maintain DISK I/O history            True
realmem     524288           Amount of usable physical memory in Kbytes        False
primary     /dev/hd7         Primary dump device                               False
secondary   /dev/sysdumpnull Secondary dump device                             False
conslogin   enable           System Console Login                              False
maxpout     0                HIGH water mark for pending write I/Os per file   True
minpout     0                LOW water mark for pending write I/Os per file    True
memscrub    false            Enable memory SCRUBBING                           True
logfilesize 1048576          Error log file size                               False
maxbuf      20               Maximum number of pages in block I/O BUFFER CACHE True

no -a output:
============
              dog_ticks = 60
               lowclust = 29
                lowmbuf = 88
                thewall = 2048
            mb_cl_hiwat = 58
              compat_43 = 1
                 sb_max = 65536
           detach_route = 1
       subnetsarelocal = 1
                 maxttl = 255
              ipfragttl = 60
        ipsendredirects = 1
           ipforwarding = 1
                udp_ttl = 30
                tcp_ttl = 60
             arpt_killc = 20
          tcp_sendspace = 16384
          tcp_recvspace = 16384
          udp_sendspace = 9216
          udp_recvspace = 41600
         loop_check_sum = 1
         rfc1122addrchk = 0
         nonlocsrcroute = 1
          tcp_keepintvl = 150
           tcp_keepidle = 14400
           tcp_keepinit = 150
       icmpaddressmask = 0
                rfc1323 = 0
            tcp_mssdflt = 512
     directed_broadcast = 0
              ipqmaxlen = 50
```

Figure 24 (Part 2 of 2). SERVER 2 Configuration

B.3 Configuration for machine SERVER 3 (AIX)

```
Console device   = /dev/tty0
Machine model    = RS/6000 550, 512MB memory
OS version       = AIX 3.2.5

lsdev -C output:
================

gsna       Available              N/A
lvdd       Available              N/A
qm         Available              N/A
sna        Available              N/A
snam       Available              N/A
snap       Available              N/A
mem0       Available 00-0A        64 MB Memory Card
mem1       Available 00-0C        64 MB Memory Card
mem2       Available 00-0E        64 MB Memory Card
mem3       Available 00-0G        64 MB Memory Card
mem4       Available 00-0B        64 MB Memory Card
mem5       Available 00-0D        64 MB Memory Card
mem6       Available 00-0F        64 MB Memory Card
mem7       Available 00-0H        64 MB Memory Card
sysplanar0 Available 00-00        CPU Planar
gda0       Available 00-07        Color Graphics Display Adapter
fpa0       Available 00-00        Floating Point Processor
ioplanar0  Available 00-00        I/O Planar
bus0       Available 00-00        Microchannel Bus
scsi0      Available 00-08        SCSI I/O Controller
scsi1      Available 00-06        SCSI I/O Controller
slc0       Available 00-00        Serial Optical Link Chip
sio0       Available 00-00        Standard I/O Planar
sys0       Available 00-00        System Object
sysunit0   Available 00-00        System Unit
tok0       Available 00-05        Token-Ring High-Performance Adapter
siokb0     Available 00-00-0K     Keyboard Adapter
sioms0     Available 00-00-0M     Mouse Adapter
fda0       Available 00-00-0D     Standard I/O Diskette Adapter
ppa0       Available 00-00-0P     Standard I/O Parallel Port Adapter
sa0        Available 00-00-S1     Standard I/O Serial Port 1
sa1        Available 00-00-S2     Standard I/O Serial Port 2
siotb0     Available 00-00-0T     Tablet Adapter
hdisk0     Available 00-08-00-20 1.0 GB SCSI Disk Drive
hdisk1     Available 00-08-00-50 1.0 GB SCSI Disk Drive
hdisk2     Available 00-08-00-00 1.0 GB SCSI Disk Drive
hdisk3     Available 00-06-00-00 1.2 GB SCSI Disk Drive (in 2.4 GB Disk Unit)
hdisk4     Available 00-06-00-10 1.2 GB SCSI Disk Drive (in 2.4 GB Disk Unit)
hdisk5     Available 00-06-00-20 1.2 GB SCSI Disk Drive (in 2.4 GB Disk Unit)
hdisk6     Available 00-06-00-30 1.2 GB SCSI Disk Drive (in 2.4 GB Disk Unit)
hdisk7     Available 00-06-00-40 1.2 GB SCSI Disk Drive (in 2.4 GB Disk Unit)
hdisk8     Available 00-06-00-50 1.2 GB SCSI Disk Drive (in 2.4 GB Disk Unit)
hdisk9     Available 00-06-00-60 1.37 GB SCSI Disk Drive
mous0      Defined   00-00-0M-00 3 button mouse
fd0        Available 00-00-0D-00 Diskette Drive
hft0       Available              High Function Terminal Subsystem
aio0       Defined                Asynchronous I/O
inet0      Available              Internet Network Extension
lo0        Available              Loopback Network Interface
pty0       Available              Asynchronous Pseudo-Terminal
tr0        Available              Token Ring Network Interface
kbd0       Defined   00-00-0K-00 United States keyboard
homevg     Defined                Volume group
perfvg     Defined                Volume group
rootvg     Defined                Volume group

lsattr -l sys0 -E output:
=========================

dcache      64K               Size of data cache in bytes                      False
icache      8K                Size of instruction cache in bytes               False
keylock     normal            State of system keylock at boot time             False
maxmbuf     2048              Maximum Kbytes of real memory allowed for MBUFS  True
maxuproc    1000              Maximum number of PROCESSES allowed per user     True
autorestart true              Automatically REBOOT system after a crash        True
iostat      true              Continuously maintain DISK I/O history           True
realmem     524288            Amount of usable physical memory in Kbytes       False
primary     /dev/hd7          Primary dump device                              False
secondary   /dev/sysdumpnull Secondary dump device                             False
conslogin   enable            System Console Login                             False
maxpout     0                 HIGH water mark for pending write I/Os per file  True
minpout     0                 LOW water mark for pending write I/Os per file   True
memscrub    false             Enable memory SCRUBBING                          True
logfilesize 1048576           Error log file size                              False
maxbuf      20                Maximum number of pages in block I/O BUFFER CACHE True
```

Figure 25 (Part 1 of 2). SERVER 3 Configuration

```
no -a output:
============

             dog_ticks = 60
              lowclust = 29
               lowmbuf = 88
               thewall = 2048
           mb_cl_hiwat = 58
             compat_43 = 1
                sb_max = 65536
          detach_route = 1
       subnetsarelocal = 1
                maxttl = 255
             ipfragttl = 60
       ipsendredirects = 1
          ipforwarding = 1
               udp_ttl = 30
               tcp_ttl = 60
            arpt_killc = 20
         tcp_sendspace = 16384
         tcp_recvspace = 16384
         udp_sendspace = 9216
         udp_recvspace = 41600
        loop_check_sum = 1
        rfc1122addrchk = 0
        nonlocsrcroute = 1
         tcp_keepintvl = 150
         tcp_keepidle = 14400
         tcp_keepinit = 150
       icmpaddressmask = 0
               rfc1323 = 0
           tcp_mssdflt = 512
    directed_broadcast = 0
             ipqmaxlen = 50
```

Figure 25 (Part 2 of 2). SERVER 3 Configuration

B.4 Configuration for machine SERVER 4 (OS/2)

```
Operating System: IBM OS/2 Base Operating System Version 2.11 CSD Level XR06200
Date & Time      : 08-23-1995  01:46:03pm
Model ID         : F8               Sub-Model ID    : 28
BIOS Revision    : 01               BIOS Date       : 06/09/92
BIOS Type        : IBM
Machine Type     : IBM PS/2 Model 95 XP
Processor        : Intel 486        Processor Speed : 50 MHz
Processor Code   :  4                   Stepping Code    : 11
Coprocessor      : Integrated
Bus Type         : Micro Channel 32-Bit Bus
Keyboard Type    : 101/102 Key Enhanced Keyboard (ID AB83)
Pointer Type     : PS/2 Mouse  Buttons: 3  Int Level: 12
Pointer Version  : 9.00
Equipment        : 1 Parallel Port(s)
                 : 1 Serial Port(s)
                 : 1 Diskette Drive(s)
                 : 5 Fixed Disk(s)
                 : Memory Cache
                 : Information Panel
                 : SCSI support in IML
                 : Pointing Device
                 : Math Coprocessor
Serial Port 1    : COM1: 03F8
Parallel Port 1  : LPT1: 03BC
Token Ring       : 1 Adapter(s)
Primary Token    : Port A20-A23  ROM: DA00  Int Level:  2  Address: 10005A8DE1C4
SCSI Device(s)   : Total        5 Unit(s)
                 : Disk         5 Unit(s)
Primary Video    : XGA
Secondary Video  : VGA
Diskette Drive A: 3.50"  - 1.44M - 80 Track - Type 4
Fixed Disk 1     :     379MB (   388,096KB) (   397,410,304 bytes)
Fixed Disk 2     :     382MB (   391,168KB) (   400,556,032 bytes)
Fixed Disk 3     :     382MB (   391,168KB) (   400,556,032 bytes)
Fixed Disk 4     :     382MB (   391,168KB) (   400,556,032 bytes)
Fixed Disk 5     :   1,031MB ( 1,056,384KB) ( 1,081,737,216 bytes)
Logical Drive C : Size   102,182KB (    99.7MB) Avail     22,240KB (    21.7MB)
Logical Drive D : Size   112,624KB (   109.9MB) Avail     15,346KB (    14.9MB)
Logical Drive E : Size   391,152KB (   381.9MB) Avail     16,776KB (    16.3MB)
Logical Drive F : Size    25,584KB (    24.9MB) Avail      2,111KB (     2.0MB)
Logical Drive G : Size   104,210KB (   101.7MB) Avail     88,928KB (    86.8MB)
Logical Drive H : Size   154,440KB (   150.8MB) Avail     82,980KB (    81.0MB)
Logical Drive I : Size   235,504KB (   229.9MB) Avail    230,992KB (   225.5MB)
Logical Drive J : Size    42,992KB (    41.9MB) Avail     35,052KB (    34.2MB)
Logical Drive K : Size   390,128KB (   380.9MB) Avail    219,608KB (   214.4MB)
Logical Drive L : Size 1,052,320KB ( 1,027.6MB) Avail    461,760KB (   450.9MB)
Logical Drive W : Size 1,890,976KB ( 1,846.6MB) Avail    278,944KB (   272.4MB)
Total Memory     :   65,152KB (63.6MB)
Conventional     :      640KB  Free:      586KB
Extended Memory  :   64,512KB  Free:        0KB
XMS Version      : 2.0
DPMI Version     : 0.95
Adapter ROM 1    : Addr D8000-D9FFF VIDEO
Planar           : ID FF9F - PS/2 Model 95
Total Slots      : 8  System (DISK): 1  User Slots: 7
Expansion Slot 1: ID 8EFF - IBM SCSI Adapter w/Cache
Expansion Slot 2: * No Adapter Present
Expansion Slot 3: ID EED7 - Unknown
Expansion Slot 4: * No Adapter Present
Expansion Slot 5: ID 8FDB - IBM XGA Display Adapter
Expansion Slot 6: * No Adapter Present
Expansion Slot 7: * No Adapter Present
Expansion Slot 8: ID E001 - IBM 16/4Mb Token Ring Adapter
QCONFIG V2.22 (Apr 25 1995) N Couch/J Muir (c) Copyright IBM Corp. 1989, 1994
```

Figure 26. SERVER 4 Configuration

B.5 Configuration for machine SERVER 5 (OS/2)

```
Operating System: IBM OS/2 Base Operating System Version 2.11 CSD Level XR06200
Date & Time      : 09-27-1995   10:04:50pm
Model ID         : F8              Sub-Model ID     : 46
BIOS Revision    : 03              BIOS Date        : 09/15/94
BIOS Type        : IBM
Machine Type     : IBM PS/2 Model 95 566
Processor        : Intel Pentium    Processor Speed : 90 MHz
Processor Code   :  5                     Stepping Code    : 21
Coprocessor      : Integrated
Bus Type         : Micro Channel 32-Bit Bus
Keyboard Type    : 101/102 Key Enhanced Keyboard (ID AB83)
Pointer Type     : PS/2 Mouse  Buttons: 3
Pointer Version  : 2.00
Equipment        : 1 Parallel Port(s)
                 : 1 Serial Port(s)
                 : 1 Diskette Drive(s)
                 : 5 Fixed Disk(s)
                 : Memory Cache
                 : Information Panel
                 : SCSI support in IML
                 : Flash ROM
                 : Pointing Device
                 : Math Coprocessor
Serial Port 1    : COM1: 03F8
Parallel Port 1 : LPT1: 03BC
Token Ring       : 1 Adapter(s)
Primary Token    : Port A20-A23  ROM: DA00  Int Level:  2  Address: 10005A8D6793
SCSI Device(s)   : Total       6 Unit(s)
                 : Disk        5 Unit(s)
                 : Tape        1 Unit(s)
Primary Video    : XGA  Video Memory:   512 K
Primary Display : PS/2 Color Display 8514
Diskette Drive A: 3.50"  - 1.44M - 80 Track - Type 4
Fixed Disk 1     :     379MB (   388,096KB) (    397,410,304 bytes)
Fixed Disk 2     :   1,917MB ( 1,963,584KB) ( 2,010,710,016 bytes)
Fixed Disk 3     :   1,917MB ( 1,963,584KB) ( 2,010,710,016 bytes)
Fixed Disk 4     :   1,007MB ( 1,031,168KB) ( 1,055,916,032 bytes)
Fixed Disk 5     :   1,917MB ( 1,963,584KB) ( 2,010,710,016 bytes)
Logical Drive C : Size    112,402KB (    109.7MB)  Avail      29,562KB (      28.8MB)
Logical Drive D : Size    102,166KB (     99.7MB)  Avail      18,594KB (      18.1MB)
Logical Drive E : Size     35,736KB (     34.8MB)  Avail      23,656KB (      23.1MB)
Logical Drive F : Size    100,768KB (     98.4MB)  Avail      96,845KB (      94.5MB)
Logical Drive G : Size    104,800KB (    102.3MB)  Avail      99,541KB (      97.2MB)
Logical Drive H : Size 1,753,888KB ( 1,712.7MB)  Avail 1,340,149KB ( 1,308.7MB)
Logical Drive I : Size    100,768KB (     98.4MB)  Avail      97,631KB (      95.3MB)
Logical Drive J : Size 1,858,720KB ( 1,815.1MB)  Avail     714,679KB (     697.9MB)
Logical Drive K : Size 1,030,128KB ( 1,005.9MB)  Avail     223,298KB (     218.0MB)
Logical Drive L : Size 1,959,520KB ( 1,913.5MB)  Avail 1,513,905KB ( 1,478.4MB)
Total Memory     :   66,175KB (64.6MB)
Conventional     :      640KB
Extended Memory :   65,535KB
Adapter ROM 1    : Addr C0000-C17FF VIDEO
Planar           : ID FF9F - PS/2 Model 95
Total Slots      : 8   System (DISK): 1   User Slots: 7
Expansion Slot 1: ID 8EFF - IBM SCSI Adapter w/Cache
Expansion Slot 2: * No Adapter Present
Expansion Slot 3: ID E001 - IBM 16/4Mb Token Ring Adapter
Expansion Slot 4: * No Adapter Present
Expansion Slot 5: ID 8FDB - IBM XGA Display Adapter
Expansion Slot 6: * No Adapter Present
Expansion Slot 7: * No Adapter Present
Expansion Slot 8: * No Adapter Present
QSYSTEM V2.22 (Apr 25 1995) N Couch/J Muir (c) Copyright IBM Corp. 1989, 1994
```

Figure 27. SERVER 5 Configuration

B.6 Configuration for CB1 benchmark machine (AIX)

```
Console device   = /dev/tty0
Machine model    = RS/6000 530H, 64MB memory
OS version       = AIX 3.2.5

lsdev -C output
===============

sys0        Available 00-00          System Object
sysplanar0  Available 00-00          CPU Planar
ioplanar0   Available 00-00          I/O Planar
bus0        Available 00-00          Microchannel Bus
sio0        Available 00-00          Standard I/O Planar
fda0        Available 00-00-0D       Standard I/O Diskette Adapter
fd0         Available 00-00-0D-00    Diskette Drive
sysunit0    Available 00-00          System Unit
fpa0        Available 00-00          Floating Point Processor
mem0        Available 00-0B          32 MB Memory Card
mem1        Available 00-0F          32 MB Memory Card
siokb0      Available 00-00-0K       Keyboard Adapter
siotb0      Available 00-00-0T       Tablet Adapter
sa0         Available 00-00-S1       Standard I/O Serial Port 1
sa1         Available 00-00-S2       Standard I/O Serial Port 2
gda0        Available 00-03          Color Graphics Display Adapter
tok0        Available 00-06          Token-Ring High-Performance Adapter
scsi0       Available 00-08          SCSI I/O Controller
lvdd        Available                N/A
serdasda0   Available 00-05          Serial-Link Disk Adapter
hdisk0      Available 00-08-00-00    400 MB SCSI Disk Drive
hdisk1      Available 00-08-00-10    400 MB SCSI Disk Drive
hdisk2      Available 00-08-00-20    Other SCSI Disk Drive
hdisk3      Available 00-08-00-30    Other SCSI Disk Drive
hdisk4      Available 00-08-00-50    1.0 GB SCSI Disk Drive
serdasdc0   Available 00-05-03       Serial-Link Disk Controller
hdisk5      Available 00-05-03-00    857MB Serial-Link Disk Drive
hdisk6      Available 00-05-03-01    857MB Serial-Link Disk Drive
hdisk7      Available 00-05-03-02    857MB Serial-Link Disk Drive
hdisk8      Available 00-05-03-03    857MB Serial-Link Disk Drive
lv00        Defined                  Logical volume
hft0        Available                High Function Terminal Subsystem
rootvg      Defined                  Volume group
hd6         Defined                  Logical volume
hd61        Defined                  Logical volume
hd5         Defined                  Logical volume
hd7         Defined                  Logical volume
hd8         Defined                  Logical volume
hd4         Defined                  Logical volume
hd2         Defined                  Logical volume
hd1         Defined                  Logical volume
hd3         Defined                  Logical volume
hd9var      Defined                  Logical volume
slc0        Available 00-00          Serial Optical Link Chip
sioms0      Available 00-00-0M       Mouse Adapter
ppa0        Available 00-00-0P       Standard I/O Parallel Port Adapter
kbd0        Defined   00-00-0K-00    United States keyboard
pty0        Available                Asynchronous Pseudo-Terminal
inet0       Available                Internet Network Extension
lo0         Available                Loopback Network Interface
tr0         Available                Token Ring Network Interface
aio0        Available                Asynchronous I/O
uservg      Defined                  Volume group
loglv01     Defined                  Logical volume
fslv00      Defined                  Logical volume
lv01        Defined                  Logical volume
db01vg      Defined                  Volume group
lv02        Defined                  Logical volume
loglv00     Defined                  Logical volume
paging01    Defined                  Logical volume
paging02    Defined                  Logical volume
mem2        Available 00-0D          32 MB Memory Card
mem3        Available 00-0H          32 MB Memory Card
lv03        Defined                  Logical volume
lv04        Defined                  Logical volume
lv05        Defined                  Logical volume
```

Figure 28 (Part 1 of 2). CB1 Configuration

```
lsattr -l sys0 -E output
=======================

dcache      64K               Size of data cache in bytes                       False
icache      8K                Size of instruction cache in bytes                False
keylock     normal            State of system keylock at boot time              False
maxmbuf     2048              Maximum Kbytes of real memory allowed for MBUFS   True
maxuproc    255               Maximum number of PROCESSES allowed per user      True
autorestart true              Automatically REBOOT system after a crash         True
iostat      true              Continuously maintain DISK I/O history            True
realmem     131072            Amount of usable physical memory in Kbytes        False
primary     /dev/hd7          Primary dump device                               False
secondary   /dev/sysdumpnull  Secondary dump device                             False
conslogin   enable            System Console Login                              False
maxpout     0                 HIGH water mark for pending write I/Os per file   True
minpout     0                 LOW water mark for pending write I/Os per file    True
memscrub    false             Enable memory SCRUBBING                           True
logfilesize 1048576           Error log file size                               False
maxbuf      20                Maximum number of pages in block I/O BUFFER CACHE True

no -a output
===========

           dog_ticks = 60
            lowclust = 29
             lowmbuf = 88
             thewall = 2048
         mb_cl_hiwat = 58
           compat_43 = 1
              sb_max = 65536
        detach_route = 1
    subnetsarelocal = 0
              maxttl = 255
           ipfragttl = 60
     ipsendredirects = 0
        ipforwarding = 0
             udp_ttl = 30
             tcp_ttl = 60
          arpt_killc = 20
       tcp_sendspace = 16384
       tcp_recvspace = 16384
       udp_sendspace = 9216
       udp_recvspace = 41600
      loop_check_sum = 1
      rfc1122addrchk = 0
      nonlocsrcroute = 1
        tcp_keepintvl = 150
        tcp_keepidle = 14400
        tcp_keepinit = 150
     icmpaddressmask = 0
             rfc1323 = 0
          tcp_mssdflt = 512
  directed_broadcast = 0
           ipqmaxlen = 50
```

Figure 28 (Part 2 of 2). CB1 Configuration

B.7 Configuration for CB2 benchmark machine (AIX)

```
Console device   = /dev/tty0
Machine model    = RS/6000 530, 384MB memory
OS version       = AIX 3.2.5

lsdev -C output
===============

sys0        Available 00-00          System Object
sysplanar0  Available 00-00          CPU Planar
ioplanar0   Available 00-00          I/O Planar
bus0        Available 00-00          Microchannel Bus
sio0        Available 00-00          Standard I/O Planar
fda0        Available 00-00-0D       Standard I/O Diskette Adapter
fd0         Available 00-00-0D-00 Diskette Drive
sysunit0    Available 00-00          System Unit
fpa0        Available 00-00          Floating Point Processor
mem0        Available 00-0B          64 MB Memory Card
mem1        Available 00-0C          64 MB Memory Card
mem2        Available 00-0D          64 MB Memory Card
mem3        Available 00-0F          64 MB Memory Card
mem4        Available 00-0G          64 MB Memory Card
mem5        Available 00-0H          64 MB Memory Card
siokb0      Available 00-00-0K       Keyboard Adapter
siotb0      Available 00-00-0T       Tablet Adapter
sa0         Available 00-00-S1       Standard I/O Serial Port 1
sa1         Available 00-00-S2       Standard I/O Serial Port 2
gda0        Available 00-01          Color Graphics Display Adapter
tok0        Available 00-02          Token-Ring High-Performance Adapter
ent0        Available 00-03          Ethernet High-Performance LAN Adapter
scsi0       Available 00-04          SCSI I/O Controller
scsi1       Available 00-05          SCSI I/O Controller
scsi2       Available 00-06          SCSI I/O Controller
scsi3       Available 00-07          SCSI I/O Controller
scsi4       Available 00-08          SCSI I/O Controller
lvdd        Available                N/A
hdisk0      Available 00-08-00-00 400 MB SCSI Disk Drive
hdisk1      Available 00-08-00-10 320 MB SCSI Disk Drive
hdisk2      Available 00-08-00-20 Other SCSI Disk Drive
hdisk3      Available 00-08-00-30 Other SCSI Disk Drive
lv00        Defined                  Logical volume
hft0        Available                High Function Terminal Subsystem
rootvg      Defined                  Volume group
hd6         Defined                  Logical volume
hd61        Defined                  Logical volume
hd5         Defined                  Logical volume
hd7         Defined                  Logical volume
hd8         Defined                  Logical volume
hd4         Defined                  Logical volume
hd2         Defined                  Logical volume
lv01        Defined                  Logical volume
hd3         Defined                  Logical volume
hd9var      Defined                  Logical volume
slc0        Available 00-00          Serial Optical Link Chip
sioms0      Available 00-00-0M       Mouse Adapter
ppa0        Available 00-00-0P       Standard I/O Parallel Port Adapter
kbd0        Defined    00-00-0K-00 United States keyboard
pty0        Available                Asynchronous Pseudo-Terminal
inet0       Available                Internet Network Extension
lo0         Available                Loopback Network Interface
en0         Defined                  Standard Ethernet Network Interface
et0         Defined                  IEEE 802.3 Ethernet Network Interface
tr0         Available                Token Ring Network Interface
aio0        Available                Asynchronous I/O
hdisk4      Available 00-04-00-00 Other SCSI Disk Drive
hdisk5      Available 00-04-00-10 Other SCSI Disk Drive
hdisk6      Available 00-04-00-20 Other SCSI Disk Drive
hdisk7      Available 00-05-00-00 Other SCSI Disk Drive
hdisk8      Available 00-05-00-10 Other SCSI Disk Drive
hdisk9      Available 00-05-00-20 Other SCSI Disk Drive
hdisk10     Available 00-06-00-00 Other SCSI Disk Drive
hdisk11     Available 00-06-00-10 Other SCSI Disk Drive
hdisk12     Available 00-06-00-20 Other SCSI Disk Drive
hdisk13     Available 00-06-00-30 Other SCSI Disk Drive
hdisk14     Available 00-06-00-40 Other SCSI Disk Drive
hdisk15     Available 00-07-00-00 Other SCSI Disk Drive
hdisk16     Available 00-07-00-10 Other SCSI Disk Drive
hdisk17     Available 00-07-00-20 320 MB SCSI Disk Drive
```

Figure 29 (Part 1 of 2). CB2 Configuration

```
vg00        Defined            Volume group
loglv00     Defined            Logical volume
fslv00      Defined            Logical volume
vg01        Defined            Volume group
loglv03     Defined            Logical volume
lv04        Defined            Logical volume
lv05        Defined            Logical volume
lv07        Defined            Logical volume
lv08        Defined            Logical volume
vg02        Defined            Volume group
lv02        Defined            Logical volume
loglv01     Defined            Logical volume
vg03        Defined            Volume group
vg04        Defined            Volume group
paging00    Defined            Logical volume
paging01    Defined            Logical volume
loglv02     Defined            Logical volume
lv03        Defined            Logical volume
fslv01      Defined            Logical volume
fslv02      Defined            Logical volume
fslv03      Defined            Logical volume
fslv04      Defined            Logical volume

lsattr -l sys0 -E output
========================

dcache      64K               Size of data cache in bytes                       False
icache      8K                Size of instruction cache in bytes                False
keylock     normal            State of system keylock at boot time              False
maxmbuf     2048              Maximum Kbytes of real memory allowed for MBUFS   True
maxuproc    255               Maximum number of PROCESSES allowed per user      True
autorestart true              Automatically REBOOT system after a crash         True
iostat      true              Continuously maintain DISK I/O history            True
realmem     393216            Amount of usable physical memory in Kbytes        False
primary     /dev/hd7          Primary dump device                               False
secondary   /dev/sysdumpnull Secondary dump device                              False
conslogin   enable            System Console Login                              False
maxpout     0                 HIGH water mark for pending write I/Os per file   True
minpout     0                 LOW water mark for pending write I/Os per file    True
memscrub    false             Enable memory SCRUBBING                           True
logfilesize 1048576           Error log file size                               False
maxbuf      20                Maximum number of pages in block I/O BUFFER CACHE True

no -a output
============

           dog_ticks = 60
            lowclust = 49
             lowmbuf = 188
             thewall = 2048
         mb_cl_hiwat = 98
           compat_43 = 1
              sb_max = 65536
        detach_route = 1
    subnetsarelocal = 0
              maxttl = 255
           ipfragttl = 60
     ipsendredirects = 0
        ipforwarding = 0
             udp_ttl = 30
             tcp_ttl = 60
          arpt_killc = 20
       tcp_sendspace = 16384
       tcp_recvspace = 16384
       udp_sendspace = 9216
       udp_recvspace = 41600
      loop_check_sum = 1
      rfc1122addrchk = 0
      nonlocsrcroute = 1
       tcp_keepintvl = 150
       tcp_keepidle = 14400
        tcp_keepinit = 150
     icmpaddressmask = 0
             rfc1323 = 0
          tcp_mssdflt = 512
  directed_broadcast = 0
           ipqmaxlen = 50
```

Figure 29 (Part 2 of 2). CB2 Configuration

Appendix C. DDCS Measurement Configuration

C.1.1.1 OS/2 or Windows Client

- 9595-OPT (60 MHz Pentium PS/2)
- 32MBytes+ of memory (not a factor for single user)
- IBM 16/4 Token Ring Adapter/A (Early Token Release enabled)
- OS/2 WARP V3 or Microsoft Windows V3.1
- OS/2 TCP/IP V2.1 or TCP/IP for DOS V2.1.1
- NetBIOS at MPTS 1.0 level (from LAPS 2.60.2)
- Communications Manager/2 V1.11

C.1.1.2 OS/2 DDCS Gateway (or Local)

- 9595-OPT (60 MHz Pentium PS/2)
- 32MBytes+ of memory (not a factor for single user)
- IBM LANStreamer MC32 Adapter
- OS/2 WARP V3
- OS/2 TCP/IP V2.1
- NetBIOS at MPTS 1.0 level (from LAPS 2.60.2)
- Communications Manager/2 V1.11

C.1.1.3 AIX DDCS Gateway (or Local)

- 7009-C10 (80 MHz PowerPC RISC System/6000)
- 256MBytes of memory
- IBM High Performance Token Ring Adapter
- AIX V3.2.5
- SNA Server/6000 V2.1.1

C.1.1.4 MVS Host

- 9121-742 (air-cooled 4-way CEC)
- 2GBytes of storage (1GBytes central, 1GBytes expanded)
- Channel-attached 3745-210 with TIC2s running NCP V5R4
- MVS V5R2
- MVS/VTAM V4R2
- DB2 for MVS/ESA V4

C.1.1.5 LAN

- Single-segment, 16Mbit Token Ring