

Oracle® CODASYL DBMS

Release Notes

Release 7.0.7

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Oracle CODASYL DBMS Release Notes, Release 7.0.7

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Purpose of This Manual

The Oracle CODASYL DBMS release 7.0.7 release notes summarize new features, software corrections, restrictions, workarounds, and known problems. These release notes cover both Oracle CODASYL DBMS for OpenVMS Alpha and Oracle CODASYL DBMS for OpenVMS VAX, which are referred to by their abbreviated name, Oracle CODASYL DBMS.

Intended Audience

This document is intended for users responsible for:

- System management
- Database administration
- Application programming

Document Structure

This document consists of four chapters:

| | |
|-----------|---|
| Chapter 1 | Describes installation requirements and location of documents |
| Chapter 2 | Describes software errors corrected in this release. |
| Chapter 3 | Describes restrictions, workarounds, and known problems. |

Conventions

The following conventions are used in this document:

| | |
|------|--|
| word | A lowercase word in a format example indicates a syntax element that you supply. |
| [] | Brackets enclose optional clauses from which you can choose one or none. |
| { } | Braces enclose clauses from which you must choose one alternative. |
| ... | A horizontal ellipsis means you can repeat the previous item. |
| . | A vertical ellipsis in an example means that information not directly related to the example has been omitted. |
| . | |
| . | |

Installation and Documentation

This chapter contains installation and documentation information for Oracle CODASYL DBMS release 7.0.7

1.1 Requirements

This version of Oracle CODASYL DBMS supports OpenVMS Alpha version 8.3.

One of the following conditions must be met in order to install this software:

- OpenVMS Alpha version 6.1 or later
- OpenVMS VAX version 5.5-2 or later.

1.2 Installation of Oracle CODASYL DBMS Software

Please refer to the Oracle CODASYL DBMS Installation Guide for release 7.0 for release 7.0 for detailed Oracle CODASYL DBMS installation instructions. Oracle strongly recommends that you read the installation guide before attempting an installation.

To extract either the PostScript (PS) or text (TXT) version of the installation guide from the kit, use one of the following commands:

For VAX:

```
$ BACKUP <device>:DBM0707V070.A/SAVE/SEL=DBM070_INSTALL_GDE.PS  
$ BACKUP <device>:DBM0707V070.A/SAVE/SEL=DBM070_INSTALL_GDE.TXT
```

For Alpha:

```
$ BACKUP <device>:DBM0707A070.A/SAVE/SEL=DBM070_INSTALL_GDE.PS  
$ BACKUP <device>:DBM0707A070.A/SAVE/SEL=DBM070_INSTALL_GDE.TXT
```

The release 7.0 installation guide is available on MetaLink and OTN in Adobe Acrobat PDF format.

1.3 Documentation in Adobe Acrobat Format

You can view the documentation in Adobe Acrobat format using the Acrobat Reader, which allows anyone to view, navigate, and print documents in the Adobe Portable Document Format (PDF). For information about obtaining a free copy of Acrobat Reader and for information on supported platforms, see the Adobe Web site at:

<http://www.adobe.com>

The Oracle CODASYL DBMS and Hot Standby documentation in Adobe Acrobat format is available on MetaLink and OTN.

Problems Corrected

This chapter describes software errors corrected in Oracle CODASYL DBMS release 7.0.7.

2.1 Problem with Remote Access and FETCH..USING

A problem has been uncovered with Oracle CODASYL DBMS when using remote database access with either DBQ or DML applications. If you attempt to FETCH a record via a USING clause, the fetch may fail with a DBM-F-END condition, even though the record does exist.

The problem will ONLY occur if one of the data items specified in the USING clause is the last data item defined in that record.

The error does not occur with local database access or with remote access when using the WHERE clause.

For example, given the following schema:

```
AREA NAME IS A1
RECORD NAME IS R1
  WITHIN A1
    ITEM NAME IS I1
      TYPE IS CHARACTER 5
    ITEM NAME IS I2
      TYPE IS CHARACTER 5
    ITEM NAME IS I3
      TYPE IS CHARACTER 5

SET NAME IS ALL_R1
  OWNER IS SYSTEM
  MEMBER IS R1
    INSERTION IS AUTOMATIC
    RETENTION IS FIXED
  ORDER IS SORTED BY
    ASCENDING I3
```

and assuming that there is an R1 record with the following values:

```
I1 = 'AAAAA'
I2 = 'BBBBB'
I3 = 'CCCCC'
```

The following remote query attempting to fetch record R1 will fail:

```
dbq> bind dbmfetrmtdb
dbq> ready
dbq> set noprompt
dbq> move 'CCCCC' TO I3
dbq> fetch first within ALL_R1 using I3
%DBM-F-END, end of collection
```

whereas, the same logical query using a WHERE clause will succeed:

```
dbq> fetch first within ALL_R1 where I3 eq 'CCCCC'  
I1 = AAAAA  
I2 = BBBB  
I3 = CCCCC
```

This problem has now been fixed. No application programming changes are required.

2.2 Area File not Renamed after DBO/MODIFY/RESTRUCTURE

The Oracle CODASYL DBMS reload utility (DBO/MODIFY/RESTRUCTURE) moves database records from a specified target area to a new area.

In versions of DBMS prior to V7.0, the default behavior was to create the new storage area with the same filename (and in the same directory) as the target original area, with an incremented file version number. Note: only offline reload is available in pre-V70 versions.

Starting with DBMS v7.0, these defaults were modified to ensure that the new storage area filename was unique by attempting to append an "_A" (OR "_B", etc) to the storage area name. This was done as part of the work to support online reload (DBO/MODIFY/RESTRUCTURE/ONLINE), where the reload could be stopped and restarted in the middle of execution.

The idea was to make sure that there was no confusion between the original area and the new area, if the reload were stopped for any reason, and to make sure that certain file actions, such as a \$PURGE, would not delete the original area prior to reload completion.

If you wish to retain the old behavior, include the /FILE= qualifier on the DBO/MODIFY/RESTRUCTURE command and specify the original storage area filename as the parameter. This qualifier should be included on the restructure operation that performs the EXECUTE phase for offline reload, or the PREPARE phase in the case of online reload.

For example, assume that you wished to reload the BUY area in the PARTS database.

In pre-V70 offline reloads, the default would be to create a storage area, BUY.DBS;2 (assuming that BUY.DBS;1 was the original area filename). In V70 and later, the default would be to create BUY_A.DBS;1.

To maintain the old behavior, issue DBO/MODIFY/RESTRUCTURE PARTS BUY/FILE=BUY. Note that you could also specify the /DIRECTORY qualifier to have the new storage area created in a new directory.

To modify the storage area file name of a previously reloaded area, you can rename the file, then use the DBO/ALTER utility and execute:

```
DBALTER> DEPOSIT FILE <area> SPECificaion <new-filename>
```

2.3 DBO/RECOVER of Journaled Row Cache Changes Corrupts Database

If a database had row cache parameters changed, and then the database was restored from a previous backup and recovered, the resulting database would be corrupt. Sometimes the **DBO/RECOVER** process would fail as well, and occasionally the Oracle CODASYL DBMS monitor process would fail.

Depending on what row cache parameters were changed, various failures may occur in the **DBO/RECOVER** operation, such as

```
***** Exception at 007E35BC : PIO$FETCH + 000003EC
%SYSTEM-F-ACCVIO, access violation, reason mask=00, virtual
address=0000000000000000, PC=00000000007E35BC, PS=0000001B
```

Also, the database monitor may fail with the following exception:

```
**** Exception at hhhhhhhh : MON$DELETE_UNREFERENCED_GBL + 00000DAC
%SYSTEM-F-ACCVIO, access violation, virtual address=0000000000414000
```

To avoid this problem do a full database and journal backup after altering any row cache parameters. If this problem is encountered it is possible to recover the restored database up until the point in the journal that contains the row cache changes. That is, using the /UNTIL qualifier, recover the journals up to the point in time that the row cache changes were made.

This problem has been corrected in this release of Oracle CODASYL DBMS.

Known Problems, Workarounds, and Documentation Errors

This chapter describes known problems, restrictions, and workarounds, as well as documentation errors and omissions for Oracle CODASYL DBMS release 7.0.7.

3.1 Additional Privileges Enhance Continued Replication for Hot Standby

For security reasons, the Hot Standby account (DBMAIJ or DBMAIJ70) is created with only NETMBX and TMPMBX privileges. In most cases, these privileges are sufficient to start Hot Standby.

However, for production Hot Standby systems, these privileges are not adequate to ensure continued replication in all environments and workload situations. Therefore, Oracle recommends that the DBA provide the following additional privileges for this account:

- ALTPRI - This privilege allows the account to adjust its own priority to ensure adequate quorum (CPU utilization) to prompt message processing.
- PSWAPM - This privilege allows the account to enable and disable process swapping, also necessary to ensure prompt message processing.
- SETPRV - This privilege allows the account to temporarily set any additional privileges it may need to access the standby database or its server processes.
- SYSPRV - This privilege allows the account to access the standby database root file, if necessary.
- WORLD - This privilege allows the account to more accurately detect standby database server process failure and handle network failure more reliably.

