

## Oracle 12c Database Upgrade Issues - ORA-00979: not a GROUP BY expression

Recently, one of our clients upgraded their Oracle Database from 11g (11.2.0.3.0) to 12c (12.1.0.2.0) which is part of their existing IT systems and they use OBIA 7964 application suite to manage their business intelligence reporting system.

One of the OOTB mapping *SDE\_ORAR1213\_Adaptor\SDE\_ORA\_PersistedStage\_WorkforceEvent\_SupervisorStatus* uses multiple sub-queries which will be merged during runtime to fetch the data for these columns:

- person\_id
- effective\_start\_date
- supervisor\_flag
- supervisor\_prv\_flag
- person\_hire\_event\_ind
- datasource\_num\_id

The below is the Override SQL for the mapping:

*< SQL can be removed, if reqd >*

```
SELECT PERSON_ID      AS PERSON_ID ,
       EVENT_DATE     AS EFFECTIVE_START_DATE ,
       SUPERVISOR_FLAG AS SUPERVISOR_FLAG ,
       SUPERVISOR_PRV_FLAG AS SUPERVISOR_PRV_FLAG ,
       0              AS PERSON_HIRE_EVENT_IND ,
       DATASOURCE_NUM_ID AS DATASOURCE_NUM_ID
FROM
  (SELECT CHGS.PERSON_ID ,
         CHGS.EVENT_DATE ,
         CASE
           WHEN (SELECT 'Y'
                  FROM W_PARAM_G
                  WHERE EXISTS
                    (SELECT 1
                     FROM W_ORA_WEVT_ASG_PS SUP
                     WHERE CHGS.PERSON_ID =
SUP.SUPERVISOR_ID
                     AND CHGS.DATASOURCE_NUM_ID =
SUP.DATASOURCE_NUM_ID
                     AND SUP.TERM_EVENT_IND + SUP.ASG_END_EVENT_IND = 0
                     AND CHGS.EVENT_DATE BETWEEN SUP.EFFECTIVE_START_DATE AND
SUP.EFFECTIVE_END_DATE
                    )) IS NULL
           THEN 'N'
           ELSE 'Y'
         END SUPERVISOR_FLAG ,
         CASE
           WHEN (SELECT 'Y'
                  FROM W_PARAM_G
                  WHERE EXISTS
                    (SELECT 1
                     FROM W_ORA_WEVT_ASG_PS SUP
```

```

        WHERE CHGS.PERSON_ID =
SUP.SUPERVISOR_ID
        AND CHGS.DATASOURCE_NUM_ID =
SUP.DATASOURCE_NUM_ID
        AND SUP.TERM_EVENT_IND + SUP.ASG_END_EVENT_IND = 0
        AND CHGS.EVENT_DATE_PRV BETWEEN SUP.EFFECTIVE_START_DATE AND
SUP.EFFECTIVE_END_DATE
    )) IS NULL
    THEN 'N'
    ELSE 'Y'
END SUPERVISOR_PRV_FLAG ,
CHGS.PERSON_HIRE_EVENT_IND ,
CHGS.DATASOURCE_NUM_ID
FROM
(SELECT
CASE
    WHEN EVT.HIRE_EVENT_IND = 1
    AND REF.TYP = 'IN_OR_PSN'
    THEN EVT.PERSON_ID
    WHEN (EVT.SUP_CHANGE_IND = 1
    OR EVT.TERM_EVENT_IND = 1
    OR EVT.ASG_END_EVENT_IND = 1)
    AND REF.TYP = 'OUT_OR_SUP'
    THEN EVT.SUPERVISOR_PRV_ID
    ELSE EVT.SUPERVISOR_ID
END PERSON_ID ,
EVT.EFFECTIVE_START_DATE EVENT_DATE ,
EVT.PREV_EFF_END_DATE EVENT_DATE_PRV ,
MAX(
CASE
    WHEN EVT.HIRE_EVENT_IND = 1
    AND REF.TYP = 'IN_OR_PSN'
    THEN 1
    ELSE 0
END) PERSON_HIRE_EVENT_IND ,
EVT.DATASOURCE_NUM_ID
FROM W_ORA_WEVT_ASG_PS EVT ,
(SELECT 'IN_OR_PSN' TYP FROM W_PARAM_G
UNION ALL
SELECT 'OUT_OR_SUP' TYP FROM W_PARAM_G
) REF
WHERE (EVT.HIRE_EVENT_IND = 1
OR EVT.ASG_START_EVENT_IND = 1
OR EVT.SUP_CHANGE_IND = 1
OR EVT.TERM_EVENT_IND = 1
OR EVT.ASG_END_EVENT_IND = 1
OR EVT.FIRST_RECORD_IND = 1)
AND ((EVT.TERM_EVENT_IND = 0
AND EVT.ASG_END_EVENT_IND = 0)
OR REF.TYP = 'OUT_OR_SUP')
GROUP BY
CASE
    WHEN EVT.HIRE_EVENT_IND = 1
    AND REF.TYP = 'IN_OR_PSN'
    THEN EVT.PERSON_ID
    WHEN (EVT.SUP_CHANGE_IND = 1
    OR EVT.TERM_EVENT_IND = 1
    OR EVT.ASG_END_EVENT_IND = 1)
    AND REF.TYP = 'OUT_OR_SUP'
    THEN EVT.SUPERVISOR_PRV_ID
    ELSE EVT.SUPERVISOR_ID

```

```

        END ,
        EVT.DATASOURCE_NUM_ID ,
        EVT.EFFECTIVE_START_DATE ,
        EVT.PREV_EFF_END_DATE
    ) CHGS
    WHERE CHGS.PERSON_ID IS NOT NULL
    ) TAB
    WHERE (TAB.SUPERVISOR_FLAG != TAB.SUPERVISOR_PRV_FLAG
    OR TAB.PERSON_HIRE_EVENT_IND = 1)
    ORDER BY PERSON_ID ,
        DATASOURCE_NUM_ID,
        EVENT_DATE DESC

```

By default in Oracle Database 12c version, a parameter '*\_simple\_view\_merging*' is set to TRUE which means any multiple sub-queries fails with '*ORA-00979: not a GROUP BY expression*' error. This is due a bug [Bug 18749211 : Ora-979 From Select With Column Masking Vpd And View Merging](#) in 12c.

Apparently, the same mapping's sql works in 11g with either *true* or *false* for parameter *\_simple\_view\_merging*. So, this appears to be a hidden undocumented parameter enabled from 12c onwards. For more information, refer to this external [post](#).

< [http://www.dba-oracle.com/t\\_12c\\_hidden\\_undocumented\\_parameters.htm](http://www.dba-oracle.com/t_12c_hidden_undocumented_parameters.htm) - ok to use external post link? no references from Oracle's sites >

There is an immediate workaround available to alter site/session level parameters by issuing the below alter statements:

- *alter system set "\_simple\_view\_merging"=FALSE;*
- *alter session set "\_simple\_view\_merging"=FALSE;*

Alternatively, Oracle has released the below patch to fix the issue which can be downloaded from metalink:

- *Patch 18749211: ORA-979 FROM SELECT WITH COLUMN MASKING VPD AND VIEW MERGING*

More information can be found at metalink note # [Doc ID 2015599.1](#).