SAP Note 191492 - Performance: Customer developments in MM/WM

Summary

Symptom

Customer-specific programs and program enhancements ("user exits") have a poor performance.The poor performance was observed when the following SAP MM/WM tables were accessed: MSEG, LTAP, EBAN, RSEG.

More Terms

Cause and Prerequisites

However, note the following **warnings**:

  o   Before you productively use the alternatives proposed here, you
      must carefully check your program with respect to functional
      correctness.

Pay attention to **the** following note:
In the following examples you can often find accesses to several tables
Example:

```
SELECT * FROM LEIN WHERE  = ...
  SELECT * FROM LTAP WHERE LGNUM = LEIN-LGNUM and TANUM = LEIN-BTANR
...
```

It might be more favorable, with regard to the performance, to define a selection view on the corresponding tables (here: LEIN and LTAP) in order to combine accesses to these two tables in one access.

Solution

```
1.   Accesses to transport requests

     a) via the storage unit number
        Incorrect:
          SELECT FROM LTAP WHERE VLENR = ....
          oder
          SELECT FROM LTAP WHERE NLENR = ...
        Correct:
          SELECT FROM LEIN WHERE LENUM = ...
             SELECT FROM LTAP WHERE LGNUM = LEIN-LGNUM and
                             AND TANUM = LEIN-BTANR
                             AND TAPOS = LEIN-BTAPS.

     b) via the SD delivery note
        Incorrect:
          SELECT FROM LTAP WHERE NLPLA = LIPS-VBELN
                           AND POSNR = LIPS-POSNR.
        Correct:
          SELECT FROM VBFA WHERE VBELV = LIPS-VBELN
                           AND POSNV = LIPS- POSNR
                           AND VBTYP_N = 'Q'.
             SELECT FROM LTAP WHERE LGNUM = LIPS-LGNUM
```

```
                            AND TANUM = VBFA-VBELN
                            AND TAPOS = VBFA-POSNN.
```

Remark:
This access mode only exists if the transport orders were created on
account of deliveries in Sales and Distribution. In this case the
respective transport orders can be determined via the document flow table
VBFA.
The field LTAP-NLPLA is filled with the delivery note number via the
dynamic storage bin assignment. This automatic assignment can be
deactivated in WM Customizing (see movement types in WMS). This side effect
must be considered when field NLPLA is used for data selection.

2.   Access to material documents

     a) via the purchase order number
        Incorrect:
```
          SELECT FROM MSEG WHERE EBELN = ...
                              and EBELP = ...
```
        Correct:
```
          SELECT FROM EKBE WHERE EBELN = ..
                      AND EBELP = ...
                      AND VGABE IN (1,6,7,8,9).
          SELECT FROM MSEG WHERE MBLNR = EKBE-BELNR
                            AND MJAHR = EKBE-GJAHR
                            AND ZEILE = EKBE-BUZEI.
```

Remark:
The fiscal year must be specified so that the system has effective access
possibilities via the primary index.If the fiscal year is missing, the
database can no longer effectively use the item number for the search (this
is a problem, especially for material documents with many items).If the
operation type VGABE is specified, the values can be additionally
restricted to the corresponding goods movements that are relevant.

     b) via the transport order number
        Incorrect:
```
          SELECT FROM MSEG WHERE TANUM = ...
```
        Correct:
```
          SELECT FROM LTAP WHERE TANUM = ...
            SELECT FROM MSEG WHERE MBELN = LTAP-WENUM
                            AND MJAHR = <requested year>
                            AND ZEILE = LTAP-WEPOS.
```

     c) via transfer requirement
        Incorrect:
```
          SELECT MSEG WHERE TBNUM = ...
```
        Correct:
```
          SELECT LTBK WHERE TBNUM = ....
            SELECT MSEG WHERE MBLNR = LTBK-MBLNR
                        AND MJAHR = LTBK-MJAHR.
```

Remark:
All items of the material document are returned. It is possible to have a
restriction to one individual item of the material document by specifying
the material number.

     d) Via the vendor number

```
      Incorrect:
        SELECT FROM MSEG WHERE LIFNR = ...
      Correct:
        SELECT EKKO WHERE LIFNR = ....
            SELECT EKBE WHERE EBELN = EKKO-EBELN
                           AND VGABE = '1'.
              SELECT MSEG WHERE  MBLNR = EKBE-BELNR
                           AND MJAHR = EKBE-GJAHR
                           AND ZEILE = EKBE-BUZEI.
```

Remark:
Accesses to EKKO and EKBE return several datasets under certain
circumstances. This must be taken into account in the program logic.With
the operation type VGABE = 1, only goods movements for purchase orders are
selected.
As an alternative you can use matchcode object M_MEKKL in place of table
EKKO (for example SELECT FROM M_EKKL WHERE LIFNR = ...).Access can be
improved by specifying additional restrictions.The fields purchasing
organization EKORG, purchasing group EKGRP, document date BEDAT, purchasing
document category BSTYP, order type BSART can make the access more
selective.

3.   Accesses to purchase requisitions

      a) via the reservation number
         Incorrect:
           SELECT FROM EBAN WHERE EBELN = ...
                            AND EBELP = ...
         Correct:
           SELECT FROM EKET WHERE EBELN = ...
                              EBELP = ...
             SELET FROM EBAN WHERE BANFN = EKET-BANFN
                            AND BANFPO = EKET-BANFPO.

4.   Access to incoming invoices

      a) via the purchase order number
         Incorrect:
          SELECT FROM RSEG WHERE EBELN = ...
                           and EBELP = ...
         Correct:
          SELECT FROM EKBE WHERE EBELN = ...
                           AND EBELP = ...
                           AND VGABE IN (2,3,P).
            SELECT FROM RSEG WHERE BELNR = EKBE-BELNR
                             AND GJAHR = EKBE-GJAHR
                             AND BUZEI = EKBE-BUZEI.
```

Remark:
By specifying transaction type VGABE, the values are restricted to the
relevant goods movements. With GJAHR and BUZEI, the primary index is
completely utilized by RSEG.

## Header Data

| | |
|---|---|
| Release Status: | Released for Customer |
| Released on: | 23.05.2003     14:04:03 |
| Priority: | Recommendations/additional info |
| Category: | Consulting |
| | |
| Main Component | SV-BO Backoffice Service Delivery |

**The note is not release-dependent.**

## Related Notes

| Number | Short Text |
|---|---|
| 819324 | FAQ: MaxDB SQL optimization |
| 766349 | FAQ: Oracle SQL optimization |
| 187906 | Performance: Customer developments in PP and PM |
| 185530 | Performance: Customer developments in SD |