SAP Business One Notes

SAP **1227965 - UDF are created as nvarchar(max) in MS SQL 2005**

Version 5 **Validity:**
20.12.2010 - active

Language English

Symptom

MS SQL 2000 imposed a limitation on record length in a table.
The length of a single record was restricted to 8060 bytes. The total length (sum of all fields) of a record in a table could not be longer than 8060 bytes. This restricted the number of fields that you could add to a table.
As a result, customers that had a large number of user-defined fields encountered a problem when upgrading their SAP Business One application or when attempting to create new user-defined fields.

Microsoft SQL Server 2005 introduced the max specifier. This specifier expands the storage capabilities of the varchar, nvarchar, and varbinary data types, enabling you to create records with lengths greater than 8060 bytes, as follows:
Values are stored directly in the data row, up to a limit of 8000 bytes, and as long as the value can fit in the record. If the value does not fit in the record, a pointer is stored in-row and the rest is stored out-of-row in the LOB (Large Binary Object) storage space.

This behavior was adopted by SAP Business One as of the 2005 A SP01 and 2005 B releases.
According to this new behavior, every user-defined field of type Alphanumeric (except for Text structure) that is created in the database, is created as an nvarchar(max) and not an nvarchar(x) as in previous releases (where x is the field length defined by the user in SAP Business One).

After an upgrade of the SQL environment to Microsoft SQL 2005, during the next SAP Business One database upgrade, all the user-defined fields of alphanumeric type, except for Text structure, that exist in the database are recreated as nvarchar(max).

Please note however, that even after that upgrade of the SQL environment to Microsoft SQL 2005 or higher you may receive an internal error while adding new UDFs in SAP Business One application caused by a SQL Server warning such as: "Warning: The table "ADOC" has been created, but its maximum row size exceeds the allowed maximum of 8060 bytes. INSERT or UPDATE to this table will fail if the resulting row exceeds the size limit." This will not allow you add new UDF if you have too many columns for certain table (usually above 250 of large row columns is critical).

Cause

Functionality Description

Solution

<u>Remark</u>

As a result of this change, customers who are using Business Objects Crystal Report might encounter problems running the report after upgrading their SQL environment to MSSQL 2005.

The problems might occur when the UDF that was created by SAP Business One as nvarhcar (max) is used in a JOIN statement in the report. Crystal Report interprets nvarchar (max) fields as memo fields and cannot perform the JOIN on these fields.

This issue will be handled in a future release of Crystal Report.

It is possible to work around this issue in SAP Business One by defining the required UDF as Keys.

In order to do so, follow the steps below:

    1. Open the Manage User Fields window (in 2005 A SP1 and 2005 B release located under Tools -> User Defined Fields - > Manage User Fields, in 2007 A release located under Tools -> Customization Tools -> User Defined Fields - Management)

    2. Expand the view until you will find the root under which the UDF is defined and highlight it

    3. Press the Keys button in the bottom part of the window. The User Keys table will open

    4. Choose the key (or create a new one) and in the table choose the required UDF, update the key table and close the UDF management window

As a result, the User Field definition will be modified in the database in all the related tables.

Other terms

MSSQL 2000, MSSQL 2005, MSSQL2000, MSSQL2005, Microsoft SQL 2000, Microsoft SQL 2005, nvarchar(Max), nvarchar(10), nvarchar, 8060 bytes, limitation, length, size, record, UDF, User Defined Field, Crystal Report, Business Objects, BO, JOIN, Key, max, upgrade

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Header Data

Released on	21.12.2010 01:33:45
Release status	Released for Customer
Component	SBO-GEN-UDF User-Defined Fields

Other Components	
	SBO-BC-UPG Upgrade
	SBO-SH-SYS-INS-A3 Microsoft SQL Server 2005
	SBO-SH-SYS-UPG Upgrade
	SBO-SH-GEN-UDF User Defined Fields

Priority	Recommendations/additional info
Category	FAQ

References

This document refers to:

SAP Business One Notes

798432	Upgrade from 6.5 to 2004A fails due to table record length
816387	Length of a single record is restricted to 8060 bytes
923288	Upgrade from 2004A to 2005A fails due to table record length
923301	Maximum number of bytes per row (8060) for UDT
974526	Upgrade to 2005A SP1 fails due to table record length

1272454   Out of memory error when run a query on table with many UDF

This document is referenced by:

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816387   Length of a single record is restricted to 8060 bytes
923288   Upgrade from 2004A to 2005A fails due to table record length
923301   Maximum number of bytes per row (8060) for UDT
798432   Upgrade from 6.5 to 2004A fails due to table record length

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Validity

Software Component	Version
SAP BUSINESS ONE	2005 A SP01
	2005 B
	2007 A
	2007 B