NOTE APRIL 2007

Table access – table protection

There are various transaction codes to access tables. You may use the popular ones like e.g. **SE16, SE16N, SE17, SM30, SM31** etc. .
All these transaction codes have one thing in common. To access tables an authority check based on two authorization objects is executed.

In a 640 BC system you deal with approx. 155.000 tables.
The tables are listed in the table **DD02L** [SAP tables].

Aside from a lot of other differences the tables can be divided into two groups:

1. cross-client tables and
2. client-dependent [client-specific] tables.

Cross-client tables are tables that are valid for the whole system, and not only for one client.
Client-dependent tables are always valid for one client.
The classification is documented by a technical setting that can be reviewed by looking up the table **DD02L**.

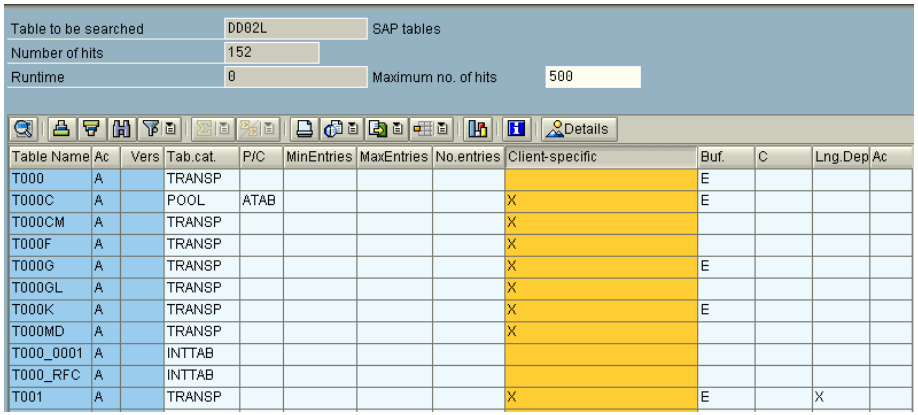

Table to be searched DD02L SAP tables
Number of hits 152
Runtime 0 Maximum no. of hits 500

Details

Table Name	Ac	Vers	Tab.cat.	P/C	MinEntries	MaxEntries	No.entries	Client-specific	Buf.	C	Lng.Dep	Ac
T000	A		TRANSP						E			
T000C	A		POOL	ATAB				X	E			
T000CM	A		TRANSP					X				
T000F	A		TRANSP					X				
T000G	A		TRANSP					X	E			
T000GL	A		TRANSP					X				
T000K	A		TRANSP					X	E			
T000MD	A		TRANSP					X				
T000_0001	A		INTTAB									
T000_RFC	A		INTTAB									
T001	A		TRANSP					X	E		X	

The column “client-specific” is relevant. The entry **X** means, that this is a client-specific table. If the field is entry, the table is a cross-client table.

In SAP® we deal with something like a two step table protection for maintenance.

First step

The first step is the general protection of tables that is covered by the authorization object **S_TABU_DIS**.
Everyone who wants to have a table access needs a corresponding authorization on **S_TABU_DIS**.
The object **S_TABU_DIS** consists of two fields.

The field **ACTVT** [activity], and the field **DICBERCLS** [authorization group].

Valid values for the field **ACTVT** are:

02 – for create, change, delete
03 – for display
BD – override change lock for customizing distribution

All possible **ACTVT** values are listed in the table **TACT**.

Concerning the values for the field **DICBERCLS** the assignment and selection is a bit more complex.
Tables are protected by so called authorization groups. The defined groups are listed in the table **TBRG**.
The assignment of tables to authorization groups is listed in the table **TDDAT**.
Every table can only have one authorization group.
But every authorization group may protect a number of tables.

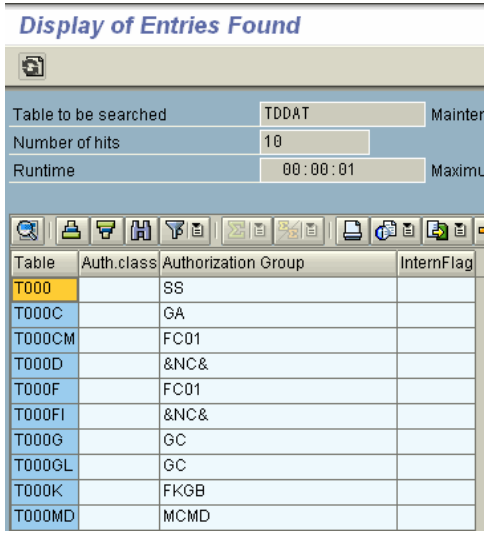
Display of Entries Found

Table to be searched TDDAT Mainter
Number of hits 10
Runtime 00:00:01 Maximu

Table	Auth.class	Authorization Group	InternFlag
T000		SS	
T000C		GA	
T000CM		FC01	
T000D		&NC&	
T000F		FC01	
T000FI		&NC&	
T000G		GC	
T000GL		GC	
T000K		FKGB	
T000MD		MCMD	

Tables that are not especially protected by an explicitly defined authorization group are protected by the authorization group **&NC&**.
"NC" stands for hereby for "non classified".

So that we can conclude as a rule, that for access to tables an authorization on the object **S_TABU_DIS** with a corresponding **ACTVT** as well as a matching authorization group is required.

Second step
The second step in the table access control is based on the object **S_TABU_CLI**.
The object consists of only one field: **CLIDMAINT**.
The value for this object is **X** [indicator for cross-client maintenance].

The object **S_TABU_CLI** is the object that especially protects the client-independent, means the cross-client tables.
All cross-client tables experience additional protection through this object.
The indicator **X** does not automatically allow maintenance, the access scope is still limited through the field values in **ACTVT** of the object **S_TABU_DIS**. But maintenance of cross-client tables cannot be executed without an authorization on **S_TABU_CLI**.

Summary

For accessing client dependent tables an authorization on the object **S_TABU_DIS** is required.

For accessing cross-client tables for maintenance an authorization on the objects **S_TABU_DIS** and **S_TABU_CLI** is required.

Remark

The object **S_TABU_LIN** was created for further table access limitation. **S_TABU_LIN** allows an access granularity down to the line level of the tables.
This is connected to special customizing adjustments, the definition and activation of so-called organizational criteria. With the predefinition of organizational criteria like e.g. a plant or a country, access to tables can then be limited to the lines of the organizational criteria only.

Because of the additional complexity of these fine tuning requirements [customizing on-line], this is rarely used in companies so far.