

📄 **SPTO1 Transparency for DB2 z/os**

TAKE CONTROL

Exploit Package Stability and eliminate its weaknesses

Know which access path to switch to before you fallback

Control REBIND generation and selection for switching

Intelligently maintain user PLAN_TABLEs

📄 **SPTO1 Transparency** (📄SPTT) provides a transparent look at the otherwise "invisible" access path information contained in the SPTO1 table of the DB2 directory.

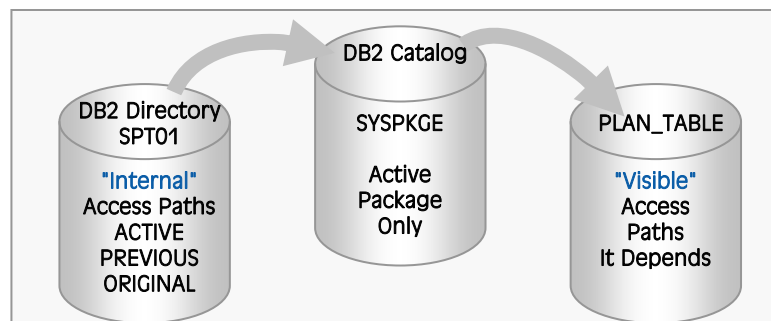
BACKGROUND

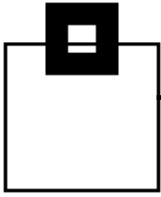
When a BIND or a REBIND occurs, the package and bind time information in the DB2 catalog is simply replaced. The new access path information is appended to the PLAN_TABLE, which is the "visible" access path information that you, the DBA, can see and use for tuning purposes, etc. However, the real access path data, called here "invisible", is contained in the SPTO1 table of the DB2 directory. These so-called invisible access paths along with their associated packages are the true technical path to the data that DB2 actually uses, whereas the PLAN_TABLE data is simply what you can see.

DB2 9's Package Stability offers a convenient fallback from a degraded access path to a previous package version. However, it introduces new problems at the same time. With the following illustration in mind, suppose you have used EXTENDED PLANMGMT and need to fallback to a previous access path. The weaknesses should become clear now. In addition to not knowing in advance what to switch to, once you have done a SWITCH to an otherwise "invisible" access path:

- The DB2 catalog has no information about the access path copy. The catalog still contains the BindTime of the last BIND or REBIND, which still points to the access path in the PLAN_TABLE.
- The PLAN_TABLE still shows the access path resulting from the last BIND or REBIND.
- If the PLAN_TABLE is cleaned up regularly, all visible access paths are lost for the SPTO1 copies.
- Since you cannot see what is in the DB2 directory, you now have no idea which access path is actually in use.

What you see and what you don't see





FEATURES

Supports all product functions and reports online

Automatically generates REBIND and SCOPE statements


Presents statement text, access paths, and catalog data


Keeps access paths of SPT01 and PLAN_TABLES in sync


Optional interface EXPLAINS SQL statements


Installs quickly and easily


THE SPT01 TRANSPARENCY SOLUTION

IBM has provided a nice little fallback feature, but it does have its weakness.  SPTT strengthens Package Stability and allows customers to benefit from its usage without the risk of falling back to surprising performance results.


SPT01 Visibility—Using a batch job,  SPTT scans the information about existing copies of all packages directly from SPT01.

Within the  SPTT online repository, you can see the information about the active, previous, and original generations of a package and drill down to the access paths on the SQL statement level. This provides the access path visibility you need to decide which access path you might want to switch to.


REBIND SWITCH Assurance— SPTT automation generates the appropriate REBIND SWITCH command based on the desired access path copy you select, either previous or original.

SPT01 Cleanup Assurance—If you need to delete package copies, e.g., to save a new original,  SPTT also generates the desired PLANMGMT SCOPE command as well and eliminates "blind" deletes. Hence, you will know what to delete before actually deleting it.

PLAN_TABLE Management—Binding or rebinding with EXPLAIN(YES) allows visibility of the existing Access Paths in the PLAN_TABLE in case a performance problem is caused by static SQL. Since these are user tables, automated cleanups delete unused access paths. Therefore, switching to a previous copy in the SPT01 is like going back to the EXPLAIN(NO) days.

 SPTT provides an intelligent cleanup procedure for PLAN_TABLEs and other DSN_* tables that keeps the Visible Access Paths for all copies of a package that exists in SPT01. All information is externalized into a DB2 table that can be input for existing procedures.

SQL Optimization—An optional interface to SQL PerformanceExpert Explains individual statements, and it provides coding violations and hints that can be used to improve statement performance.

With  SPT01 Transparency, you have the visibility and automation you need to exploit IBM's Package Stability feature and make "performance-wise" decisions.



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