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Compliance's Bright Side

By David Beulke

The steps you take to comply with government regulations might yield unexpected benefits.

Regulatory requirements such as the United States' Health Insurance Portability and Accountability Act (HIPAA) and Sarbanes-Oxley Act of 2002 are causing extensive changes within corporations. Some of the changes alter database system fundamentals; all of them require data management flexibility and an intimate knowledge of DB2 infrastructures.

The latest versions of both DB2 for z/OS and DB2 for Linux, Unix, and Windows offer enhancements that help organizations comply with these new regulations.

HIPAA regulations set standards for the privacy of medical records and the security of electronically stored information. The new multilayered security features in DB2 for z/OS v.8 provide a great way to enhance privacy policies through the use of security labels. These labels, combined with new row-level security, make it easier to provide consistent systemwide security for individual data items. (You can read more about this feature in "For Certain Eyes Only," available online at www.db2mag.com/db_area/archives/2004/q1.)

Row-level security ensures that only approved people or programs can access, update, or delete data. DB2 v.8's multilevel security also lets you specify access for individual columns; therefore, an organization's security department and DBAs have complete flexibility to devise a comprehensive security plan for any application or business requirement.

But that's not all. DB2 for z/OS v.8 also uses the Integrated Cryptographic Service Facility (ICSF) through EDITPROCs or FIELDPROCs, which provides encryption of the underlying data sets for DB2 and for DB2 backups. Additional new encryption options are available when DB2 works with RACF. The z/OS system can be configured to verify the remote requester's TCP/IP point of entry with the SERVAUTH class and NETACCESS statements. This verification can help thwart unauthorized attempts at

system or data access and adds another security option for Internet workloads.

DB2 v.8's DRDA capabilities were enhanced to provide default encryption through either BSAFE or ICSF facilities. Both facilities support DB2 encryption for user IDs, passwords, and security-sensitive data transmitted over TCP/IP networks. DB2 as a server or remote can now encrypt data traveling across the wire.

Additional DRDA enhancements support a number of items that are vital for the Web. Support for multirow fetches should help performance when filling a page with data. DRDA support for multimedia data types or large objects can help with direct access to very large DB2 data types. IBM worked with the Open Group Technical Standard organization on a draft of DRDA version 3 to come up with other DRDA improvements. (You can read about the DRDA improvements at www.opengroup.org/comm/press/26feb04.htm. Sessions at the May International DB2 Users Group [IDUG] conference will also address DRDA changes.)

Sarbanes-Oxley requires auditors to certify the company's financial statements and the financial processes that produced those statements. Certifying the process could mean that someone has to know every SQL statement that executes in a system. A new feature in DB2 for Linux, Unix, and Window v.8.1 can satisfy this daunting task. Improved monitoring capabilities capture every SQL statement executed and place them into a convenient DB2 table. Although this capability was available in previous releases, it used to require additional setup. Now, auditors can quickly review the captured SQL statements and understand how the financial system works. This SQL data can also be leveraged by tools and security departments to verify data protection rules and access conventions.

In addition to providing a great audit trail, this SQL information can be used for performance tuning analysis. You can glean a wealth of DB2 performance data by grouping the SQL statements, identifying the top 10 most popular objects and WHERE clauses, and reviewing the mix of the SQL statement types against the tables and columns. You might realize new index designs or redefine objects for better performance.

IDUG can help you discover and understand these new DB2 features and capabilities. As the largest gatherings of DB2 professionals around the world, IDUG conferences give you the opportunity to network with the best and brightest DB2 developers from companies, vendors, consultants, and IBM. Visit www.idug.org for the latest information about DB2.

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[Return to Article](#)