



Database Modernization: A Matter Of Survival For IBM i ISVs

by Alex Woodie

In the discussion of database modernization, the question inevitably comes up: What are IBM i independent software vendors (ISVs) doing to modernize their databases? The answer, according to database modernization experts at Databorough, Resolution Software, and TEMBO, is they aren't doing much. The vast majority of IBM i ISVs continue to use traditional DDS and ISAM database technology and aren't moving quickly to modern SQL and DDL. Eventually the ISVs will need to invest in database modernization if they want to keep the applications relevant in an SQL world.

Database modernization has been on the technology docket for more than a decade, but what kind of attention has it received from the midrange users? Very little. Sure, SQL and DDL data access techniques are taught and used in the IBM i marketplace, and the technology is being utilized in development shops. But in terms of what's powering the most transactions, existing ISAM and DDS technology is exponentially more popular. (The Indexed Sequential Access Method, or ISAM, database engine is used for traditional record-level access in the database, and is used with Data Description Specifications, or DDS, whereas the database's newer SQL Query Engine, or SQE, is commonly used in conjunction with Data Definition Language, or DDL.)

You begin to realize what a giant disconnect there is between what IBM would like its users to do, and what its users actually choose to do, when you consider the fact that IBM hasn't enhanced the old ISAM and DDS technology since 1999, and has instead focused all database enhancement efforts on SQL and DDL technology--bringing new features like field-level encryption, XML support, and various indexing enhancements only to the SQL (SQE) engine.

"If it ain't broke, don't fix it" has been the mantra of the midrange marketplace for decades. ISAM

continues to work, so why should I take the time to overhaul my application and replace a perfectly functional technology (ISAM and DDS) for something that people will rarely see (SQE and DDL)? No matter that DDS hasn't seen anything new in 13 years.

But forward looking ISVs should reconsider their priorities when it comes to investing in applications, Marinus van Sandwyk, the managing director of TEMBO, says. "A lot of ISVs are in the same positions as most of the IBM i customers. They ask themselves, 'Is this viable for me to invest in the application, or should I just allow it to die a natural death?'" he says.

"We believe that our applications have another 10 to 20 years of life in them if we can sort out the issues that are preventing us from responding in the agile fashion to changes in the business environment. People must realize they have one of two choices: Allow their application to die, or alternatively invest and leverage what they have," he says.

Since TEMBO appeared on the scene earlier this year with its automated SQE-to-SQL conversion tool, Van Sandwyk has become an outspoken proponent of database modernization. TEMBO's tools are still new, but other database modernization tool vendors have been struggling to make the same arguments for years.

Rich Ollari, who sells Resolution Software's Xcase modernization tool through his company, Technical Decisions, has his own view on the market.

"If you talk to the IBM DB2 team, they clearly have set the path for modernization to SQL," he says. "And there are a lot of reasons behind that, everything from new features in SQL that aren't available in native record level DDS data access methodology, to getting to an industry standard so there's a standard database; to availability of talent and keeping the IBM i platform with a level of vitality with new talent coming in, because there's new SQL talent out there, but there's not new DDS talent out there."

The problem, as Ollari sees it, is that database modernization just doesn't trickle up the IT ranks in ISVs to motivate the people in charge. "While there's a great interest in it, and we believe the marketplace understands it and wants to get there, such that projects that are more visible within the organization tend to gain a little more on the priority scale."

Stuart Milligan, the director of Databorough, framed the issue in starker terms. "To be frank, most of [the ISVs] are saying 'I'm not going to do anything that's potentially of strategic value in my RPG code base because RPG is not my strategy,'" he says.

"As an ISV, I can understand what my ISV customers are thinking," Milligan continues. "It's absolutely clear in their strategy: They're not buying tools from us that give them an RPG strategy. Not that we don't have any. Yes, we do. You could argue we're one of the world leaders. But we don't sell them because people don't want to buy them. I'm not RPG bashing here. It would be fantastic to use my tools to do RPG. But I'm not going to invest in development because that's not what people are asking for."

Van Sandwyk and Ollari both said that ISVs tend to have a better grasp on SQL and the reasons why they might want to adopt it than end-users. However, getting the ISVs to pull the trigger on adopting SQL has proven to be a bigger challenge than getting end-user organizations to make the change. Reps from all three database modernization tool vendors say they have greater success with individual companies that have tight control over their code.

Further complicating matters for ISVs is the fact that they must take into account the different versions of their products in use in the field. Making a big change in the applications--as replacing the ISAM engines with the SQE engines most definitely is--would add another level of complexity for the ISVs and the users.

It's a bit of a chicken-and-the-egg problem. "Clearly if somebody like JD Edwards were to release an all-SQL version of their iSeries app, it would expose a wide installed base to that technology, who are not necessarily using it right now," says David Hendrickson, president of Treeline Data, a systems integration company that works with Ollari's Technical Decisions and Resolution's Xcase. "Obviously they could drive it. But it isn't about driving the technology, as much as about them making the right business decision for their own customers."

TEMBO is currently in discussion with five ISVs who are considering AO-Foundation, which can convert RPG applications to utilize the SQE engine without requiring the code to be recompiled, the company says. However, they are not mainstream ISVs, in that they host the IBM i applications, and provide access to the application through software as a service (SaaS) or similar delivery methods. And many of these hosted solution providers are after the big performance benefits that SQL can deliver

in batch environments, and not trying to present DB2 for i as a modern database that any Java, .NET, or PHP developer could instantly comprehend.

Ollari and Van Sandwyk agree that more education would help. If more people knew about the advantages of using SQL and the data-driven programming approach advocated by IBM, then there might more incentive to begin using the technology more broadly in IBM i applications. "There are some end users that have a grasp of modernization, the reason behind it, and how to get there, but I would say the vast majority of the users need to be educated on the concepts," Ollari says. "That is not the case with ISVs."

While ISVs understand the issues surrounding SQL, they have proved to be reluctant to lead and to invest in a technology where the payback is long term. Even if new application sales are down, ISVs can milk their maintenance revenue streams without risking anything. But this lack of risk-taking and innovation is hurting the IBM i marketplace, and will eventually relegate the platform to true dinosaur status (if it hasn't already).

"What I don't see are the killer transitional applications from the vendors, totally SQL enabled, browser enabled, really state of the art," says Hendrickson, who wrote the introduction to IBM's latest DB2 for i modernization white paper. "It seems to me the legacy vendors have huge investments and haven't been able to justify it internally, for whatever business reasons, to make that transition. I guess the vendors haven't seen it as a survival issue yet."

Van Sandwyk, who proudly identifies himself as an IBM i bigot, definitely sees it as a matter of survival. "To be frank, this is the time we need to take charge of the situation, and say, this is what we need to do to if we want to retain IBM i," he says. "What's hurting us is not the platform. The platform is brilliant. It's the applications and the older generation of programmers to a large degree, that still prefer to do things the way we did it in the late '80s and early '90s."