

The Direction of System i Technology, Part 1

[System iNEWS Magazine](#)

System iNEWS Staff

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What's so great about DB2 Query? How will IBM's VIP program affect the System i? Would open-sourcing DB2 create a better database? And what about telephony, POWER6, MySQL, PHP, and Groovy on Grails? How will they help move our beloved system forward?

This past June, we assembled a panel of experts to tackle those questions and more. Wayne Madden, *System iNEWS* editor in chief, led the discussion. Panel members included senior technical editors Mel Beckman, Paul Conte, and Michael Otey. Also on board were technical editors Don Denoncourt, Carsten Flensburg, Scott Klement, Bryan Meyers, and Carson Soule, as well as guests Scott Steinacher and Dan Darnell, and longtime contributor Bob Tipton.

Wayne: Our topic for today is where System i technology is headed. We can discuss hardware, applications, software — whatever you feel is important. To begin, is there anything significant that IBM has done in the past 12 months that will truly make a difference to this platform, or anything you believe is on the short horizon that IBM is doing or should be doing to affect the System i or the System i community?

Scott S: Absolutely. IBM is introducing a brand-new DB2 Query product. More and more System i shops have been bringing in Windows servers to do business intelligence (BI) because there's a perceived lack of software in the System i market. IBM is introducing this product at a low price point because of that. I saw a two-hour demo, given to me by the Toronto lab, and the product is phenomenal. It's Web 2.0 all the way, with Ajax and so forth. As I was watching the demo, I almost forgot that the product was browser based — it was that impressive.

The reason IBM is doing this is to try to stem the flow of shops going to SQL Server for BI. A case in point is one of my biggest clients, a very large manufacturer. This client just hired a new VP who doesn't know much about the System i. One of his first mandates was exploring moving a data mart off the System i and onto SQL Server. He sat in on that two-hour demo from IBM and was just bowled over by the product's functionality. It literally changed the course of direction there, and the client is going to be sticking with the System i for BI in the hopes that this query product will be as good as it appears. If that happens across the install base, well, you can see the payoff. More System i machines will be running BI. People will buy a small one and dedicate it to that. DB2 Query has the potential to be a category killer in the BI space because it'll be cheap enough for everybody to own.

Don: Scott, correct me if I'm wrong, but you're talking about all high-end functionality. That's great with BI, but I also heard that DB2 Query is a replacement for Query/400 so you can create simple PDF reports for the web, which has been a problem for Java-based applications for years. So isn't it very simple entry for getting web reporting?

Scott S: Definitely. It has a lot of basic functionality too, like report generation and so forth. It creates PDFs and plays well with Excel. And it's not just a simple dumb-export way of putting data into spreadsheets. You can export the formatting directives and formulas as well. And that's critical because a lot of people pull data from data warehouses, pump it to Excel, then rewrite the formulas! And there goes the one version of the truth. With DB2 Query, you can export those directives, formulas, and so forth. You can take subtotals, summaries, colors, fonts — everything — and pump it right out to a spreadsheet, and that's a godsend for spreadsheet jockeys. And shops can easily create presentation-quality reports in PDF format. I think it will also have an optional developer workbench to let people build key performance indicator (KPI)-types of portals and dashboards. From what I understand, it's going to have optional OLAP enablement and Active Reports as well.

Mel: Scott mentioned those low-end boxes; that's a big change that could rejuvenate sales, because you can now for under \$10,000 get, in a bundle, the whole OS and an unfettered machine with no speed restrictions. That's a

price point that I can convince clients to deploy. And you get the bulletproof database, a good level of security, and the ability to do LPAR in the future, if you want to go there.

Bob: The interesting thing that will make that work, though, is the reinvigoration of the applications. In the marketplace, it seems that IBM's Systems and Technology Group has not really focused on the "S in SMB" (*small* in small and medium businesses) for so many years, and (this is my opinion here) the large System i customers have been allowed to co-opt the development strategy for the platform — co-opted the marketplace — and that IBM kind of lost its way and forgot about the small and medium-size customers. The thing that's interesting about the technology, what Mel's talking about, is that it's almost like going back to 1987, where you have a completely integrated technological solution that needs to have applications that people find appealing. I see a lot of opportunity in China, Poland, Brazil, Indonesia, and India for the System i platform more so than in the United States because of IBM's pricing strategy, because of the VIP program, because of the reinvigorated focus on the S in SMB. So it's not so much the technology but how IBM is packaging it.

Carson: It's interesting that Scott jumped on DB2 Query as the most significant announcement, because I think it is. When we talk user interface, most of us immediately think green screen. Actually, when most of our executives talk about the user interface, they don't care about the clerks who are using the green screens. What they care about is that they can't get their key performance indicators or their graphical reports or PDFs, and that their CFO can't pull something pretty into a spreadsheet. I think this is actually half of the user-interface challenge. It's long overdue, but it will have that profound impact because it goes to the user interface. And it isn't just taking your green screen and putting it in a browser; that in many ways may be the least important part.

The System i does contain all that critical corporate data, and the ability to access it has long been a complaint of non-IT people about the System i, so I think this will eliminate that complaint. Couple that with the new price points of the high-speed processors and user-based pricing, and some real interesting options open up.

Carsten: Another important aspect is that many businesses haven't yet made the move because maybe there weren't any tools besides Query/400 products available for them. They're now given this [DB2 Query] product. Even if it's not a full, large-scale enterprise type of application, it will allow many businesses to make their first move and get experience with the product before they make the final decision to perhaps choose the products you mentioned. You must always have a way to get from where you are to where you want to go to make that happen. And that's an important aspect of making [DB2 Query] available — that more businesses will be able to go down that path and do something creative about business intelligence.

Scott S.: You're right, this is definitely not a large-scale data warehouse application. It's a query and reporting tool.

Wayne: IBM introduced the VIP program last year, which is for vertical industries. The company has been focused on a few industries and has a strategy to go after this [market sector] industry by industry, where it tries to reintegrate its application. Have you heard or encountered anything about this? Because I've seen it stay under the radar — that it's maybe still an idea.

Bob: When you're talking about small businesses, the problem in this market from an application's perspective is that it's very influencer based. In other words, small businesses don't talk to IBM, and IBM doesn't talk to them. They talk to their accountant, to their lawyer, to their golfing partner, or to somebody else. And that's where VIP is directed — at market segments in specific geographies to influence the influencers. So it's a long-term strategy.

But an interesting part of that is the reinvigoration of the World Software product from Oracle. Shock of all shocks, the people of the World Software team think that the Oracle acquisition is the best thing that's happen to them in the last 10 years. They love being part of Oracle. Oracle is investing heavily in the World Software product. In addition, a complete feature/function comparison of World Software from about three years ago, stacked up against several similar products, showed that the number one feature/function software product was the 25-year-old RPG application from JDE. If you take away the sex and the sizzle and all the user interface stuff, the thing that had the best overall feature list was World Software, which is a 25-year-old System/34 application.

It's fascinating how much you "need" the sex and the sizzle to sell software these days. And it's an interesting emerging partnership between the VIP program and Oracle with the World Software product. IBM's view is that

it would like to dominate certain markets around the world, certain geographies, certain industries. To me it's about market growth — new systems growth — not market erosion. The products you're talking about here with the Query application are to stem the tide of people leaving. Tools like that are not designed with a primary focus of bringing new people to the platform. So, if the VIP program is successful, and that's a big if at this point, in influencing the influencers, we'll see the fruit of that in two to three years.

Paul: So IBM is trying to get this refresh of the application portfolio — is it coming out with a message that says this is what we think you should be resting the refresh of your applications on?

Bob: It is not. In fact, the number one competitor to the System i market is IBM. It's the non-System-i IBM; it's IBM Global Services and IBM Software Group and other parts of the Systems and Technology Group. That is the chief competitor to the System i group — it's not Windows. What the System i has to do here with World Software and other offerings is to compete on an equal footing. So that's the big "if."

As a quick aside, IBM is also doing a whole telephony offering in that marketplace. It's something that's really not well known, but you talk about a category killer; people really look at it in depth — the System i with its Voice over IP support.

Mel: That's one I think that the low-end boxes are going to do quite well, because there's no reason you have to have a lot of CPU power to do that. You could run 500 people on one of those little \$10,000 boxes.

Wayne: And Nortel jumped in on that too. So now you have 3Com and Nortel both with solutions on the System i that will be sold to resellers.

Carson: We should actually celebrate. IBM took the throttle off of the processor.

Wayne: Actually, somebody sat back and said, let's figure out the price per user so when it crosses a certain size, customers will pay more instead of the tier they pay today. But then, nobody remembered to define what a user was. So IBM announced that it would be just registered — named — users. Well, there are 112 profiles on my system that you put there, so we have to check those, and then we've got these other profiles that are there. IBM is still actually figuring it out, but it's saying concurrent users.

Carson: Look, the reality is that the pig is out of the pen, and IBM can't catch it.

Wayne: So back to telephony. It's one thing IBM has done this past year that we give it kudos for, as well as unleashing the full power of the processor on the low end. And we as a group expect to see that trend move upward into its systems. What are some others?

Carson: Just real quickly on hardware: POWER6 was stunning. IBM delivered what it said it was going to deliver, and the speeds, the power consumption, was a technological tour de force unmatched by any of the other chipmakers in the world. IBM deserves kudos for it. And I'm excited about seeing POWER6 in the System i early next year. IBM did an incredibly brilliant job that most people said it, or Intel, couldn't pull off. Intel could not make it work within the power profile to get that speed. Nobody has 4.7 GHz now but IBM, and no one else has it on their road map any time soon.

Dan: The last big thing that helped me was the 32-bit JVM. It reduced the memory footprints so we could actually run WebSphere on the System i in a redundant environment and not have to pay so much more for all the extra memory it used to require.

Paul: The database just continues to get deeper and broader and faster. You can lose track of how much has been put into the database over the last couple of years. DB2 on the System i has got to be considered one of the leaders of the pack.

Carson: And it still doesn't require a DBA, which nobody else believes.

Mel: An interesting development is the MySQL interface, which I think will actually bring more people to the platform.

Scott K.: I'm still waiting to see how IBM is going to develop MySQL, but I'm very excited about it. I'm hoping to see that when MySQL software is running on other platforms, the client side can access the System i as a MySQL server and get to the DB2 stuff. Another thing that I'm excited about is the idea that my System i software

might be able to go out and talk to a MySQL database instead of having to run on other platforms. These are both very, very exciting potentials.

Mel: My understanding is that [MySQL] works both ways. And much of it is to help enable the porting of PHP applications, a lot of which use MySQL. So you don't have to put in lots of semantic glue. Right now, it's really tough to bring a PHP application in and talk to DB2 without rewriting the application, or at least refactoring it. But this will eliminate that step.

Scott K.: That's great for PHP, but the other thing that I'm looking for is the ability for RPG, Cobol, and C software to run SQL statements to MySQL databases.

Wayne: I believe IBM is including that [capability].

Bryan: I don't get excited about a lot of things that aren't RPG. But PHP is the first language I've gotten excited about on this platform since '71. I think it opens up a lot of possibilities for — I hate to use the word — modernizing, but it gives us a wider range of easy possibilities that typical System i programmers can look at and understand and implement right away and feel as though they're getting some use out of it, rather than just learning a new technology for the sake of learning something new.

Mel: One thing I like about PHP is that it's easy to learn. I did the whole WebSphere route, learned how to run the deployment thing, all that stuff. And then, I had to try to teach employees to do it, and it was a disaster. I was able to take PHP, give them a short class, and get them up to speed producing working applications. Now, can they scale to hundreds of thousands of users? No. Can we have a software development team of 500 people? No. But I got the applications delivered, and they're solid and they run and we can maintain them.

Paul: So it asks the question: Is PHP going to fill the role on the System i that has been missing for years? That is that the platform needs a Visual Basic, as it were — something that provides an easily adoptable, good enough language to provide a reasonable interface and do business applications with. That's always been missing on our platform.

Don: I'm one of the Java guys, and I too was very impressed with PHP. I did a lot of work learning PHP, and I found it a very approachable language. But recently, I've become enamored with a new language and a new framework. The language is Groovy, and the framework is Grails.

What I see as the advantage of Grails is that it provides the approachability of PHP but with the strength of Java frameworks. Groovy is built on top of the Java stack — it's built on top of the Java language — it's a JVM language; it compiles to Java bytecode. Groovy is very interesting to Java developers and computer scientists because it has a lot of Ruby and Python-like capabilities. But from the business-developer standpoint, Grails, which is a Groovy framework that was based or inspired by Rails (the Ruby framework), is very approachable. And yet it has the framework capabilities built in that's missing in PHP.

When you start with PHP, you start with an HTML file. And then you begin adding your caret and question mark and doing database calls. After a year or so, you realize you need to create a framework or use one of the multitude of frameworks out there to craft an application architecture. And that's when you'll approach the complexity of Java. The thing is, you'll probably never go back to refactor your PHP code to use frameworks. And you say PHP is as approachable as VB. Well, that was the issue with VB: You had spaghetti code all over the place. That's the real problem with PHP.

With Grails, you start with a well-crafted framework, but you don't have to learn that framework. It's all done for you. The philosophy is convention over configuration. If you do Java development, you have to pick your framework or take the one IBM recommends in J2EE and EJB. With Grails, most of the decisions are made for you. It's a very easy, very approachable language.

Paul: So, as an environment over JVM, does that inherently make it straightforward or possible to run on the System i right now?

Don: There are no issues running [Groovy] on the System i; it compiles to Java bytecode. So it will run anywhere there is a JVM. You can copy and paste Java code into a Groovy class file and, other than for loops, it will run. Now that's not necessarily what you want to do, because you can refactor the Java code using Groovy syntax, and it might be 20 or 30 percent of what the Java version would be. It's very easy to write.

Paul: One of the value propositions from the System/38 days on has been that the vendor made a lot of choices and integrated things for you in terms of the user interface and the database frameworks. So is it fair to think that Groovy on Grails might bring to the System i that kind of integration and simplification again but with contemporary capabilities?

Don: Yes. Rails means that you're high speed but following convention. So that's the idea behind Ruby on Rails and Grails.

Carson: Bob referenced earlier the idea of the kitchen sink approach to the System i — you can do anything on it. The reality is that you need different tools and different languages for different environments. One of the problems is that if what I need to do is knock out two web pages, loading WebSphere is never going to be the solution. I don't care whether you run Java or Groovy over it. And so we have this really heavyweight model, and we got killed on the lightweight stuff, which will always be there. So you have to have these choices, and the fact that they are open-source choices and cross-platform choices really enhances them. And that's true, of course, of both Groovy and PHP.

Wayne: Do you think IBM will change its strategy of its investment in RPG at some point, maybe even DB2, where the company basically says it's not economically feasible to maintain RPG and it goes open source?

Mel: There's definitely value in open source for DB2. That's a move IBM should seriously consider, because the value of DB2 isn't necessarily in how it works internally but that it's on an integrated platform and different integrated platforms. Some big companies have open source that are big software components. Sun open-sourced all of Solaris, and a major VoIP vendor, Pingtel, open-sourced its entire PBX. In both cases, it's resulted in a huge resurgence of interest in their products. IBM could open-source DB2 and still have very tight control over what goes into the official distribution. It could maintain that tight control and yet get many, many more minds working on DB2 interoperability. The creativity that open-source developers bring to products once they become open astounds me.

Paul: No matter what we're talking about with all these different language alternatives from RPG to PHP to Groovy on Grails, they still don't hit at the level of working with some application generators, where you can describe more structurally what the application is and generate tons and tons of code. What's interesting is that what's being accomplished in terms of the magnitude and complexity of applications is phenomenal. And it seems that the major barrier to wider use of this more efficient level of development is that there's not a large enough community around any one particular approach.

But what if IBM took its EGL work and open-sourced that with some other new initiative. That seems to me to be an area where we could get some huge breakthrough. It wouldn't have to be just the System i. Obviously, this could be something that's open-sourced for cross-platform. It could be something that's open-sourced on top of other underpinnings. So, does anyone know of anything going on in the open-source world at that level, and if not, why aren't we seeing more work there?

Scott K.: I've done a lot to try to get open source going on the System i, and my experience with our community is that there aren't that many people really interested in developing open source. A lot of people are interested in using free software, and a lot of people think, "Well, IBM is the barrier behind me getting this feature I want; if it were open source, maybe I would get this feature." But what I don't find is people saying is that they want to help IBM develop its RPG compiler, its EGL, or whatever and contribute what they did for free back to IBM.

Mel: That's why I think one target for open source is things that are already intrinsically cross-platform. There have been some significant features, including the MySQL integration, that would have been very helpful to have had three or four years ago. But we're just getting it now, and it's almost too late. So, the value of open source is that you don't have some marketeer making a decision about what the features will be; you have the actual users of the product determining the features. By having it be a cross-platform product, you get broad support.

Scott K.: The problem with cross-platform is that you lose the advantages of your system. If somebody wants to develop in pure PHP or some other open-source language, it's hard to see why you would pick the System i to do that when the mainstream support for PHP is all Linux. It's hard to see how we could compete as the System i against Linux if 99 percent of the people using PHP are on a different platform.

Mel: But the System i is Linux as we're running right now. You can run Linux in an LPAR partition, and it

works very well. So I think the System i has to sell itself on the real advantages it has.

Scott K.: But again, without the core product, why would you choose to run Linux on a System i?

Mel: For stability.

Scott K.: The reason you do it is that you're already using i5/OS, and you really like the platform.

For more of the panel's discussion about the direction of the System i, watch for Part 2 of this roundtable in an upcoming issue.

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