

Looking to THE FUTURE

Experts explore the latest trends in data warehousing and BI. *by Jackie Zack*



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Teradata Magazine asked several experts to prognosticate on trends in data warehousing and business intelligence (BI). Here's what Donald Feinberg, Dr. Michael Goul and Dr. Kishore Swaminathan had to say about the next big developments on the horizon:

Swaminathan: The biggest asset that companies have that is totally under-exploited today is the data sitting in all of their back-end systems. In the past, it was very difficult to extract data from these big systems. The emergence of standards-based interfaces, such as SOA [service-oriented architecture] and Web services, for the first time, give you a relatively easy means of accessing data from back-end systems.

Feinberg: Another major trend is that most of the large companies and even some medium-sized companies are moving toward a mixed workload, so BI is reaching customers, partners and channels—and that is causing an additional set of problems. There are also an increasing number of companies that are starting to use the data warehouse as part of the infrastructure for their operational systems. OLTP [online transaction processing] applications are now interacting with the data

warehouse, and then we're adding BI and analytic services to OLTP applications, all of which put additional strain on the data warehouse. All of the vendors are trying to get their DBMS [database management system] software to manage that mixed workload more efficiently and with better performance.

Goul: I'm excited about all the new partnerships being formed because they're a perfect example of how, architecturally, current partnering efforts are changing the way the world is looking at BI. One such partnership talks about in-database analytics, which says we want to speed up the way that analysts build BI models leveraging the data warehouse.

Feinberg: Better I/O performance is on everybody's roadmap because I/O bottlenecks are probably the single biggest performance issue that every vendor is contending with in a data

warehouse. Assuring good performance of the data warehouse from an I/O standpoint is not easy, because it requires moving around hot (frequently used) and cold (infrequently used) data.

Swaminathan: And then there's the emergence of mashups, which enable the end user to combine data from multiple sources and manipulate it to create simple but new and distinct Web applications. That is a development that could potentially bring BI to the masses, not just to the mathematicians and the business analysts sitting in the back room.

Feinberg: In addition to data mining, BI, queries, reports and all of that, analytics are extremely important, causing a number of vendors to create specialized engines specifically to run analytics.

Goul: In terms of methodology, many are seeing the benefits of collaboration. There is very little research about involving customers or end users in your innovation processes, but external involvement is key. An example of this cooperative approach is seen at the Teradata User Groups' annual PARTNERS Conference. Here are potential competitors presenting their best methods for leveraging products and services in their own organizations and who are also walking away with innovations that they perhaps have learned from a competitor or another type of company that has some similar problems.

Swaminathan: The amount of unstructured information that is published on the Web about you, your employees, future employees, competitors' employees,

customers, competitors' customers, blogs, bulletin boards, news releases, et cetera, is another new source of business intelligence waiting to be mined.

Feinberg: On the longer-term basis, there is one other trend that we're going to start seeing soon. Some 80 percent of a corporation's information is on text/XML documents and other types of file structures like photographs, videos, audio and e-mail. All of that information that is worthwhile needs to be digitized and put into a data warehouse so that they can mine it, run analytics on it, et cetera, to make use of it with BI and other applications. **T**

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