

DCI's CEO GEORGE SCHUSSEL

Interview by David Baum, Photographs by Joe Iandanza

George Schussel has been actively involved in the IT industry since the early 1960s. Today, he is the CEO of DCI, one of the major conference and trade show organizers in North America. Among DCI's better known tradeshow are Data Warehouse World, Internet Expo and Database & Client/Server World, which is chaired by Schussel. In this exclusive interview with Information Builders News, Schussel discusses the Internet model of computing and how it differs from traditional client/server computing.

IB NEWS - How is the Internet/intranet model of computing different from traditional client/server?

SCHUSSEL - About a year and a half ago, I started running into companies who were seriously pursuing the idea of building real applications using Internet standard software. When this became obvious to the press, a number of articles were published stating that client/server was dead. Of course, real Internet veterans understood that the Internet itself is a wide area client/server network—a network of networks. The real issue is that the technology base of Internets and intranets is very different from that which we have come to know as two-tiered client/server. Client/server isn't dead, but the question of which type of client/server is to be used is very real. Another challenge comes with making the Web work in an intranet environment that coexists with client/server systems and mainframe systems.

IB NEWS - How has all this affected our perceptions of the client/server model?

SCHUSSEL - In the mainframe era, the computing model was all server, with terminals into a mainframe. It then became all client, where programs ran on the PC and the networked applications were built on models of file sharing. The first true client/server was a two-tiered model, with a shared database and the application running on the desktop. The middleware in that case was the SQL language or remote procedure calls (RPC). That type of system became very popular in the early 90s and did a good job of solving group applications in which 50 or 100 people collaborate on a project.

IB NEWS - Were there limitations with this type of architecture?

SCHUSSEL - Two problems evolved from that two-tiered model. It didn't scale very well, fundamentally, because

the server became overloaded. The second problem was that as companies added more terminals (PCs), maintaining that software on all the PCs became onerous. The industry responded with 3-tier or n-tier architectures, with the middle tier either a TP monitor or an application server that could act as a funnel and establish a small number of high speed connections with the database. Then, around 1995, the idea of using the Internet as a way of implementing client/server came along.

IB NEWS - How is the technology base different in the Internet/intranet model?

SCHUSSEL - It's much more open and less vendor-specific. In the Internet model, the technology standards such as URLs, HTTP, and HTML evolved independently of any one vendor or any one operating environment. Another major difference is that most of the business logic and data is on

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one or more servers, with "thin" clients needing only a browser such as Netscape Navigator or Microsoft Internet Explorer.

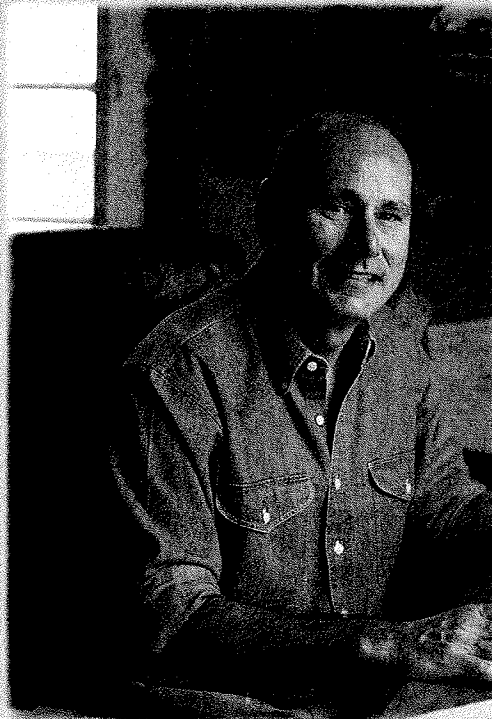
The second generation of Internet systems came with the advent of Java and ActiveX components, which allow us to build general purpose programming capabilities on either the server or the client side. The early Internet applications only had the client acting as a terminal, looking at a page generated by the server. With a Java virtual machine on the client side we can download Java code from the server to the client and have that code run on the client.

IB NEWS - Is there still a need for middleware like EDA with the Internet model?

SCHUSSEL - A huge new market has opened up for EDA because more than any other product, EDA enables access to mainframe files of all different types. Companies want to Web-enable the data "jewels" hidden in their mainframe applications, and EDA is the leading candidate to allow that. For example, Netscape has just signed an agreement with Information Builders to implement EDA as a way to access mainframe data.

IB NEWS - How are middleware architectures as a whole changing?

SCHUSSEL - Distributed objects will become the middleware of choice across the Internet, particularly with the acceptance of Java and ActiveX and the distributed computing models that go along with each of those technologies (CORBA and DCOM). EDA is changing as well. To maintain its leadership role, Information



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*-George Schussel,
CEO of DCI*

Builders has added object request brokers (ORBs) that are CORBA- and ActiveX-compliant.

IB NEWS - Let's get back to the mainframe. Are mainframe applications and databases still important in the Internet Age?

SCHUSSEL - Unquestionably. If you have data warehouse information on MVS, Windows NT, or UNIX, for example, that you want to make available to people in your company or across the world, you can now tap into it with the browser as a standard user interface. Information Builders is a leader in this area with tools such as WebFOCUS that can help establish the browser-to-database connections—not just for mainframe data, but for just about any type of data. It's even possible to take the data that historically was only viewable through 3270 terminals and link it to a Web server running UNIX or Windows NT, which can also drive PCs or Macs all across the world. If

you don't want to have a UNIX or NT tier in the middle, you can use the mainframe as a Web server directly, all using Information Builders tools.

IB NEWS - How can companies provide external access to corporate applications for their customers, partners, and suppliers?

SCHUSSEL - This is one of the major reasons to use an Internet architecture, and it is changing the way many companies are doing business. E-Commerce and new EDI models are mainly concerned with linking corporate networks. It's all about distributing information and conducting transactions over Internets, intranets, and extranets. Now even small companies have the ability to publish their information to or accept transactions from whomever they want around the world. The key aspect is that all the person on the other end needs to have is a browser. Most of the logic of Internet applications runs at the server.

IB NEWS - Will network computing or network computers (NC) bring down the total cost of running corporate applications?

SCHUSSEL - Network computing opens up the ability to interact with your suppliers and your customers and millions of people who are strangers. That is a huge business advantage. Most companies are pursuing network computing for business advantage and not cost reduction. We really don't yet know the extent of cost reduction possible from this computing model, but there's not much doubt that important business advantages can be achieved from this type of collaborative computing. While network computing doesn't necessarily imply network computers (NCs), there are places where an NC will be the logical choice. For example on a factory floor, where users just need access to a server with a GUI on the client end. That is the kind of place where NCs will have a role.

IB NEWS - Do you think we will see a balance between intranet computing and traditional client/server?

SCHUSSEL - Intranet computing is going to be simply one of the kinds of technologies that corporations use; it won't mean they get rid of two-tier client/server. There will be applications that a fat client is best for. There are application environments where people don't want to wait for Java to download over the wire. I don't think we can say that intranet or network computing reduces the total cost of running corporate applications. I would say that network computing enables certain kinds of applications that you never would have dreamed of before.

IB NEWS - Is there a bandwidth problem in using the Web for these types of systems?

SCHUSSEL - We need to differentiate between the Internet and intranets. If you use an intranet with an Ethernet LAN, there typically is no bandwidth problem. The bandwidth problem comes when you go out over the Internet. I think the solution to that problem is Extranets. Extranets are private-labeled Internets, provided by networking companies like Sprint, MCI, AT&T, AOL, etc., that rely on designated pipelines over the Internet backbone with secured access at a premium rate. If you are contending for access over the Internet in the middle of the afternoon, using a 28.8 modem, yes bandwidth is a problem. And that is not a problem that is going to go away quickly. But for corporations, value-added private networks and Extranets are the solution. Well architected, 3-tier applications can also help reduce contention for application and data resources on the server.

IB NEWS - What types of development tools do companies need for building Internet and intranet applications?

SCHUSSEL - If you go out on the Internet today and go to a site like Amazon.com, Fidelity Investments, or the Wall Street Journal Home Page, you'll see systems that were built with first generation Web application development tools. Their DBMS links were built with CGI interfaces and the application logic is written in low-level languages like C++, PERL or Smalltalk. These kinds of apps require highly skilled (and rare) programmers. Newer Web sites, such as Datamation's Power Management Benchmark application and Renfe's corporate site, were created with tools like WebFOCUS. You might not be able to tell the difference from a user

perspective, but these newer sites are easier to develop and maintain.

Editor's Note: For a complete look at the Renfe (Spanish railway network) Internet solution, turn to page 22.

IB NEWS - What's the difference, in a nutshell?

SCHUSSEL - What is changing now is that software vendors have come out with integrated suites of higher level tools to build Internet applications. Now you can purchase integrated software, which handles the database API, the Web server API, and provides graphical, nonprocedural process definition—in other words, a 4GL environment for building those applications on the Web.

On the other hand, the initial requirements are sometimes harder to establish than with the older types of architectures. Systems analysts and corporate developers have more decisions to make than in the past. There are often more architectural variables, and developers are challenged with integrating new Internet systems with existing back office applications and databases. It's a complex field and we have really just scratched the surface of this exciting era. ●

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