
**Level:** All
**Works with:** Domino.Doc, Lotus Workflow, Lotus Workplace, Notes/Domino, QuickPlace, Sametime
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# A view from the top: Michael Rhodin on Lotus Software

Interview by
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*Michael Rhodin is the new Vice President of development and technical support for Lotus Software. We spoke with him about the Lotus Software strategy, how Lotus Workplace delivers on demand, and software integration among the IBM brands.*

**What's your vision for Lotus and how does that fit into the overall IBM software strategy?**
Before looking at the Lotus strategy, let's look at the overall IBM Software Group strategy to see how Lotus fits into it. I've been involved with the Software Group strategy since IBM started the e-business software momentum. As we moved forward, we focused on infrastructure. IBM provides some of the best infrastructure software in the world. Our customers have relied on us for management of their transaction processing systems for a very long time. We need to maintain that focus, but we also need to expand our sphere of influence to "put a face," if you will, on that infrastructure.

Three years ago, the group that I was part of began focusing on user interaction software, giving us the idea for WebSphere Portal. It was an attempt to simplify how you build applications for the Web, and, in particular, how you build user interfaces for Web applications. As the technology evolved, it became clear across Software Group that WebSphere Portal was more than just a product. It was a component technology that the different lines of business could leverage as a consistent method for building user interfaces. Now DB2, Lotus, Rational, Tivoli, and WebSphere can construct applications with a componentized user interface that can interoperate with software from other divisions. This provides horizontal integration across the different parts of the software portfolio.

In the middle of 2002, we realized that WebSphere Portal was important technology for Lotus. Until recently, DB2, Lotus, Rational, Tivoli, and WebSphere operated as vertical silos of capability. The Software Group strategy to componentize that capability enables us to mix and match capabilities from across the brands and to very rapidly create new solutions and offerings for the market. Part of that enablement uses the underlying user interface technologies of WebSphere Portal as a consistent user interface model across all of the components. Componentization lets the brands build on the same model.

It's been 30 years since IBM has had a common user interface framework across all of its products. The 3270 was the last consistent user interface we had across all of our products. It's been a long time, so this is a very important step forward for us. We will have integration of capability across the entire software business that we

haven't had before. Last fall as the Lotus next generation (next gen) technologies took shape, the technologies evolved at the same time that the componentization strategy across Software Group evolved. We decided at a group level that the Lotus technologies would be part of the componentization technology and that collaboration is a set of capabilities to be leveraged across all the brands—not just as a separate set of Lotus products.

While building the next gen technologies, we divided them into component capabilities built on a standards-based infrastructure. WebSphere provides the underlying common run-time for our other technologies, and Lotus provides the common user interface technology across all capabilities from the different brands. Lotus technologies are part of the component model, so soon we can have instant messaging capability and awareness and presence capability applicable to all the brands. Rather than buy Sametime for instant messaging capability, instant messaging becomes an inherent capability across the entire Software Group portfolio. Componentizing lets customers build applications that leverage that same capability.

We see enormous potential in this componentization strategy and in the ability to construct applications very rapidly. These applications build on the Lotus collaborative capabilities and on a common programming model that comes from the WebSphere Portal user interface technology. There is tremendous synergy between WebSphere Portal and Lotus; bringing those together accelerates capability into the market.

**Many of these components, for example, instant messaging, are currently also sold as stand-alone products. Will this continue to be the case, or will the day come when these components are no longer available as separate products?**

We're bringing capability to market in many different offerings. There's an offering that's messaging-centric; a team collaboration offering; a document content management offering; and a dynamic learning capability. There's also the ability for people to build collaborative applications. All of these are constructed from these capabilities, so the presence capability is an underlying one that exists in all of those offerings, but if you buy just the messaging capability in that offering, you won't have collaboration.

When you add collaboration, not only do you get the instant messaging and e-meeting capabilities that we know and love in Sametime, but it also enables the collaboration capability that exists in other offerings. You get both the vertical addition and the horizontal integration of that functionality at the same time. It's a concept we call software on demand that lets you purchase the level of capability that you want to start with, and then expand it with other collaborative capabilities.

Lotus Workplace is a platform offering as opposed to a series of disjointed products. Historically, we've had many product businesses at Lotus: the Notes/Domino franchise and add-on products like Domino.Doc and QuickPlace, the Sametime business, and an e-learning business. We're focused on building a platform from collaborative capabilities—not to sell a huge product to the market, but to quickly generate offerings from the componentized capabilities. Using a platform approach, we can bring enormous value to our customers for creating new collaborative applications.

One of the great untapped opportunities within our customer base is automation of the user processes in an organization. For example, if a customer wants to buy a product or service from us, the customer issues an RFP (request for proposal). We have a process for dealing with RFPs; but it's a manual process tied to the

 

individuals involved. Often, those involved refer to the last successful RFP response created to use it as a model for creating the next one. But if you break an RFP down to its process elements, one of the first elements to emerge is people location: How do you pull the right experts together? Then there are documents that must be created in a certain order to serve as components of a response. There are business cases that must be approved and presentations to be created. This occurs in a user process workflow, not a transaction workflow.

There are reports that say that 80 percent of data that flows around corporations is unstructured information found in emails and in attachments in the email system. Lotus Workplace lets you create and manage applications across the user process workflow to prevent data loss. IBM has had much success with business process integration. Before coming to Lotus, Ambuj Goyal, General Manager of Lotus Software, led that business. With his experience, we can help customers automate their user processes.

There are many efficiencies to be gained as we automate this next round of applications; but, to do that, we need a set of capabilities in tooling to allow customers to leverage the different collaborative capabilities. We need to componentize functions like email, calendar, to do lists, and so on, and to make those components reusable so that customers can incorporate them into their workflows to manage their processes. We want to develop a platform that allows efficient development of applications.

**Who do you see at the primary audience for Lotus Workplace?**
Lotus Workplace is unique because it does not target professional programmers or IT professionals. Instead, it targets line of business professionals—those with domain expertise. IT shops do not have the domain expertise to build the applications any typically, do not place this at the top of their priority list, so they don't see the value yet. By enabling the domain experts to automate and to build applications, we show them the value in the solution. At the same time, the IT shop manages the deployment of applications through the IT infrastructure.

We simplify the development of the applications with point-and-click assembly for line of business professions whether they are supply chain experts, purchasing experts, or sales team members. We want to maintain a balance, while unleashing the potential of these experts to automate these processes. Those are fundamentals that we're building into the overall platform.

**What's the strategy around Lotus Workplace?**
As we looked at componentizing collaboration capabilities and the long-term architecture for the next decade of collaborative computing, we're designing a system that learns from what we've done in the past. One of the great expenses of software development is porting—moving data from one operating environment to another, such as moving Notes and Domino to a mainframe, to Linux, or to Solaris. Because those programs were written with a set of tooling and technology tied very tightly to the operating systems on which they ran, they are expensive processes to migrate.

As we build the next generation platform, we horizontally layered the capability across the overall Software Group strategy, so we chose the J2EE platform as the common run-time infrastructure beneath Workplace. We leverage the investments in WebSphere as a common run-time beneath the Lotus Workplace components. Then we build a set of what I call fine-grained components that can be leveraged across the different Lotus offerings.

Lotus Workplace applies the concept of componentization to the person object. In each place that a person is used throughout all of the collaborative capabilities, Lotus Workplace uses the same object. That creates enormous potential for us going forward. For instance, we can add instant messaging capability to a person through a single object. We don't have to find each instance of a person to put calls into our instant messaging capability as we did when we integrated Sametime with Domino. We can change one fine-grained component to add capability to every offering, including capability built into our customers' applications. This is an enormous speed benefit when delivering new capability to market. It also improves the quality of our offerings because when you change only one object, it makes it easier to verify that it's working.

We also have a common directory infrastructure and common support for simple functions like logging and tracing. Right now, organizations have unique ways of implementing problem determination and logging and tracing. The autonomic computing initiative in Software Group is developing a common logging and tracing format and repository leveraged as a component across all Software Group offerings. Lotus Workplace is one of

 

the first new products to leverage the autonomic computing capability and to offer common logging and tracing across the different collaborative offerings to speed up problem determination. It helps us internally to test and helps use externally to support our customers after the products ships.

These fine-grained components are then constructed into a set of application services. There is a messaging application service that includes email, calendar, to-do lists, and so on—your basic PIM and messaging support. It's similar to what you have in Domino today when it's used simply as a mail environment. A team collaboration application service includes e-meetings, instant messaging, buddy list, and chat. These application services surface new capability, but these services are, again, built as coarser-grained components that can in turn be leveraged by other services, so you can embed e-meetings in a learning module to structure the classroom environment. We can reuse components across the platform.

There is a content and document management application service. Web content and document management is not simply about having an archival system; it's about how you create documents in a collaborative environment, how documents are managed, and how they are attached to places. We include components that allow you to edit documents in-place without having to open another application, so you can embed a spreadsheet component or presentation software in your collaborative application.

The content management component is leveraged in other parts of the platform for the management and creation of content. If you have a workflow process for creating content for a Web site, you could have the same content creation process for creating materials for an on-line learning class, so the same kind of reuse occurs across the platform.

**Are there any other components in Lotus Workplace?**
There is also a dynamic learning component. We came to the conclusion that learning is evolving beyond the traditional classroom environment, so it needs to be linked to the work process. For example, if I receive an email about new government regulations, I should be able to click on the phrases to open related learning modules. We call that just-in-time learning, and that's a new capability of the Lotus Workplace platform. Dynamic learning is a structured learning environment: It has catalog management and keeps track of which classes people take just like a traditional learning system, but what's new here is that we're integrating it horizontally into the other parts of the collaborative system, so you can link directly from anywhere in the platform. Learning must be an integrated part of a dynamic workplace, not an afterthought.

**Earlier your mentioned tooling and the ability for customers to design their own applications. Let's talk about the application development environment.**
One of the underpinnings of making the application development environment work is an underlying workflow capability in the platform. To enable that, we have to create a new run-time capability for the creation of applications by the line of business experts. These experts want to take business objects and link them together in a process flow. To create a tool that allows us to visualize that process flow and to populate that process flow with collaborative components requires an open architecture—a standards-based architecture that allows us and others to bring new component capabilities to the platform. The tooling allows the construction with point-and-click assembly capability to create a workflow application, to test it, and to run it. The focus is on business components and business objects that allow people to get that done.

This new tooling capability is called Lotus Workplace Designer. It will come out as an overall part of the Lotus Workplace platform over time. As I mentioned, the platform has a set of application services on a common run-time and a common set of component infrastructure visualized through a common user interface framework. WebSphere Portal provides a common user interface paradigm to construct applications from components and to visualize those applications on many different types of devices. It's about not only presenting information to a Web browser, but also presenting information to a rich client environment with desktop integration.

Right now, we have separate capabilities: We have Web browser technologies for our collaborative components and the Notes client or rich client capabilities. We have a common interface technology with the WebSphere Portal framework that aggregates user capabilities and the separate views of those capabilities, depending on your device. If you use a Web browser, the capabilities look like a Portal would on a Web page. If you use a rich client, you have integrated rich client capabilities with additional functionality like off-line use and replication. You can view those two different clients as different devices accessing the same platform. We also extend this to

 

pervasive devices—PDAs and cell phones. They can also access the same workplace.

Separation of the model of a workplace from the view of a workplace is key. For instance, I can create an auto dealership workplace. This workplace doesn't require different applications for a wireless PDA, a rich client, or a kiosk Internet terminal. It's the same application, the same workplace, and the same workplace model. I'm just providing three different views into that same workplace, so that separation of model and view is important for us as these new devices proliferate. This is a very important capability of the platform.

It's not often that you build a platform from scratch. It happens once or twice a decade, so we're taking advantage of the lessons learned from the previous decade about Internet-enabling our technologies. We're applying those lessons to the reconstruction of these capabilities following this component and architectural model that separates the concept of the model from the view. We're really thinking through the architecture of this because we believe this platform is an important one. It will be around for a long time, so we need to architect it accordingly.

**Speaking of architecture, why not build on the existing architecture?**
I guess the answer to that question is: Which architecture? We have many architectures. Which one do we choose? At the Software Group level, we determined that we needed to architect the software business on the concept of an on demand operating environment. That operating environment is based on WebSphere, which provides the base application server on which we build. WebSphere provides the portability across all the different platforms, so we don't worry about tying into a UNIX operating system or a mainframe operating system. We concentrate on communicating with the on demand operating environment that's substantiated by WebSphere. Then we focus our development teams on building what they know best—collaborative capability—as opposed to reimplementing lower levels of the stack.

This allows the different parts of the software business to focus on what they do best. The WebSphere team focuses on the transactional operating integration environments. Lotus focuses on collaborative technologies. Tivoli focuses on systems and process management applications. We can focus our domain based on what each of the different brands does best. Looking ahead at the next 10 to 20 years, we need to think about what the right architectural base is for the next generation of computing. We've learned a lot from the success that we've had with existing products like Sametime and Domino and Notes, and we leverage that knowledge to create the next generation platform. We're doing it in a way that lets our existing install base move forward very seamlessly into this new architecture.

**Obviously, a lot of our readers have a background in Notes and Domino. What are a few of the most compelling reasons why they want to look at Lotus Workplace?**
Most of the Domino customers I talk to are also WebSphere customers, running two separate infrastructures. They use WebSphere for all of their next generation e-business applications, and they run Domino almost as a legacy environment within their infrastructures. When I talk to them about how we're bringing these technologies together and bringing the best capabilities of Notes and Domino forward into this new infrastructure, customers know that they have the ability to consolidate on a single infrastructure.

From an operations viewpoint, customers have two separate operating environments and two sets of administrators. Lotus Workplace allows it all to come together. Notes and Domino applications run very well within the Notes/Domino environment, but they don't extend out into other types of environments. There are many bridging technologies, such as the Lotus Enterprise Integrator, that have been built to tie into other types of systems. As we move ahead, our customers are looking forward to seamlessly integrating J2EE components coming both from IBM and from third-party developers into new collaborative applications. It allows them to bring standards into the fold. Customers will see us delivering capability much faster. They will see an evolution of capability on a much more rapid timescale than we can accomplish in the current model.

We will not create a cliff for our customers to jump off to get to the next model. We're building a set of bridging technologies that allow the integration of the Domino and Lotus Workplace environments. Many of our customers have ten years or more of investment in collaborative applications built on top of Domino. Moving an email system is difficult enough, but moving ten years of investment and application development is a very difficult process, so we're focused on taking Domino applications and projecting them into a workplace—into a J2EE world. That capability exists today for Domino Web applications, so our focus right now is Notes

client-server applications. How will those surface in the Lotus Workplace environment? Our engineering teams are working on that issue.

We're very focused on helping our customers leverage the investment that they've made in Domino and on bringing that forward into the Lotus Workplace environment; we're not going to leave those customers behind. We have a tremendous number of customers for whom Domino is a mission-critical part of their business every day. They will see the ability to move forward with us instead of having to make a radical change. Domino will exist as an application server environment for many years; it is an integral part of where Lotus Workplace will go. We will not make our customers rewrite ten years of applications overnight. We will allow them to run their applications in a Domino environment and have them work as an integrated part of the Lotus Workplace platform.

**Can Lotus Workplace Web Content Management (Aptrix) help there?**
Aptrix fits a niche in our software portfolio. Aptrix has done a very good job of bridging both worlds. They have a Domino-based content management and content creation system. They have a WebSphere-based content creation system with the same capabilities along with the ability to surface the information through the WebSphere Portal user interface. This allows our customers who have a lot of information locked in their Domino-based systems to access that information and to publish it through WebSphere Portal, which is the bridge into the Lotus Workplace world. It provides a bridge between the existing install base and the future platforms. This is one of the reasons why we found the Aptrix offering very attractive and why we bought them.

**Speaking of content management, there seems to be a renewed interest in Domino.Doc and Lotus Workflow. Any thoughts on this?**
Renewed interest in content management is due in part to the Enron scandal. A result of that scandal is tighter regulations of information management and compliance. Regulatory injection of requirements will drive document management as an initiative force. We will make a lot of investments in that space. We're focused both on regulatory compliance and on user process workflows, which I spoke about earlier.

One of the criticisms of the previous architectural model is the way in which information flows around a corporation via email and attachments, as I mentioned before. You use office productivity software, such as Microsoft Office or Lotus SmartSuite, to create documents, and then you attach them to an email and send it out. That productivity gain offered enormous benefits, but generated two problems: When you attach a document to an email and send it, you're sending source intellectual property around with your name on it. People can change it, but it still flows around with your name on it. The second problem is that the number of attachments accumulate in the mail files. The attachments are getting bigger and bigger and bigger as the software becomes more sophisticated, as the documents become more sophisticated, and as the spreadsheets become more sophisticated. This is filling up inboxes.

People say storage is cheap, so why do we care? Why is every organization limiting mail file size? Storage isn't as cheap as you think. If everyone in IBM had a gigabyte for their mail file size versus the limits we have right now, we'd have to buy two to three times as much storage for 320,000 employees. That's expensive. The second problem is—and this is one that I've heard from customers—the amount of time it takes to backup files is now exceeding the time allotted overnight, so they can't actually backup the mail files because they're getting so big.

The batch window problem existed in the mainframe world 30 years ago when organizations couldn't run backups overnight before the transaction processing system had to start up the next morning. We solved that problem to get to 7x24 operations in the transaction processing world, but it's now becoming an issue in the distributed software world because the backup window has gotten too big. I heard one customer say that their backup runs take 12 hours. That means the mail files on that particular system are only available 12 hours a day or 12 hours on the days they do backup, so we have to rethink the attachment phenomenon.

If document management becomes an integrated part of your overall workflow, you can have referential passing of documents as opposed to passing attachments, so there's only one copy of the document in the content management system, and users have a pointer or a link to that document. With that link, you can now enforce version control, so you no longer pass around intellectual property. There's an audit trail of who made changes to the document. You can check them in; you can check them out; and you can control who has read and write access to the documents.

 

By including a pointer to the document in the document management system rather than attaching the file to an email, you attack both the intellectual property issue and the backup window issue because you now have a centralized control mechanism for the documents.

**The Lotus portfolio obviously has expanded over the last year or so, and teams are working together very closely to componentize functions. How do you meet the challenge of having so many different teams work closely and stay on the same page?**

I sat back and thought about this a little while ago. Lotus Workplace is one of the larger computer science projects going on because we have over 600 engineers working on the Lotus Workplace platform right now. Developing a release of a product with that number of engineers presents a number of project management challenges. We're learning a lot as we go, but we found that having a solid architectural foundation for the principles of componentization and the principles of which underlying capabilities to use determines how well the teams work together. Everyone is using the same objects. These objects will be reused, and by developing fairly well-defined boundaries for these components, it allows reuse across the platform much faster.

Componentization forces the teams to talk to each other. These teams have to work with each other because they leverage each other's work. There are many challenges, including having a common build environment that works for everyone and having a common library system and common policies. The componentization architecture provides us with a firm footing for what we need to do. We'll know better when we are done, but the results so far are pretty promising.

**Let's talk a little bit about integration with other brands in the IBM software portfolio and what efforts are being made in that area right now.**

I think the key to integration is being driven by a decision we made last year to centralize an architecture board at the Software Group level. Lotus has several members who participate in the overall Software Group architecture board, but most notably, Carol Jones and Doug Wilson are both members of the steering committee. The other important effort is the cross-pollination of technical skill across the brands. Within Lotus in the last six months, people have been moving out to other brands, and people have been moving in from other brands. Doug Wilson, our CTO, was a long-time Lotus employee from the early Lotus 1-2-3 days. He left to become part of the WebSphere group for three years, so he was tightly integrated with all of the WebSphere work. He is one of the founders of the architecture board that became the Software Group architecture board. He's very well connected to the architects across the business.

Carol Jones was one of the leaders of the WebSphere project for both the application server and tooling. She was the chief architect of WebSphere Portal in its early releases and is now the chief architect of Lotus Workplace. By having that level of talent in key leadership positions with linkage to the other groups, we see a lot more cross-pollination of ideas, which is really what it's all about. We'll see more and more of that. I'm encouraging movement across the brand boundaries to cross-pollinate the technical team, so we can build that informal network of people to contact for help with a problem.

Recently, some of our technical leaders have moved over to the CIO's organization. Both Craig Smelser and Dave Newbold are now part of the IBM CIO's office. We're using our connections with them to ensure that IBM leverages Lotus's collaborative capabilities. The IBM intranet recently moved to WebSphere Portal. More and more capabilities are being built into WebSphere Portal and into the intranet site. With WebSphere Portal, we can begin integrating the new Lotus Workplace capabilities into the basic infrastructure that's in place.

There are people leaving; there are people coming in, and that's a good thing. Part of what we're doing is both expanding the scope and the sphere of influence, if you will, of the technical leaders within the brands by moving them to other brands and by bringing people in from other brands, so that we have a more diverse, representative population within Lotus.

**Is WebSphere Portal being adopted by any of the other brands?**

It's becoming a Software Group-wide standard. The WebSphere Commerce team has adopted it; the IBM Content Manager team has adopted it. In fact, the infrastructure within it is being used to create something called the Integrated Solution Console, which is a common administrator console for all of our server lines and our storage lines, and is being adopted by Tivoli for some of its next generation products as well. Rational is

 

looking at it for some of their future Web-based products also. WebSphere Portal is becoming a common user interface technology across the board.

Part of this is not just about Lotus becoming a consumer of components from other parts of the software business, it's about Lotus as a division becoming a producer of components for use by other parts of the software business. This producer/consumer model is how we will make progress in the componentization of the entire software stack. That's the work that's underway right now.

**What's on the horizon for Lotus beyond Lotus Workplace?**

We've got enough on our plate. If you think about it, we have three businesses that we're managing. We have the established business of Notes and Domino and the set of extension technologies with Domino.Doc, Lotus Workflow, QuickPlace, and so on. That's an installed base; it's horizon one mature business. We have a growth business with WebSphere Portal, and we have an emerging business with Lotus Workplace. So we have a fairly spaced-out pipeline, if you will, in the business, and that's something that's important for the longevity of the brand. But Lotus Workplace will become the underpinning for our investments going forward. The real question is what other collaborative capabilities will be built into the platform? We have a lot of work to do. This is not a project; it's a journey. And we believe Lotus Workplace is a journey worth taking.

**ABOUT MICHAEL RHODIN**

Michael (Mike) Rhodin is Vice President of Development for Lotus Software and WebSphere Portal brands. In this role, Mike is responsible for development of the Lotus product portfolio, which includes WebSphere Portal, Lotus Notes/Domino, and the rest of the Lotus product line. Mike also leads the Lotus worldwide technical support organization and is responsible for the Lotus customer satisfaction initiatives.

Before taking his current assignment, Mike lead IBM's development efforts for Pervasive Computing from November 1999 through January 2003. His responsibilities included the development of the WebSphere Everyplace family of offerings, WebSphere Portal, the WebSphere Voice offerings as well as new embedded software componentry. Prior to his role with Pervasive Computing, Mike served as Director of IBM's Server Solutions in Software Group. From the point of entering management in 1989, he has held numerous software development management assignments, including communications servers and networking software technology.