The Aftermath of the Integrated Enterprise Software Stack

R I C H A R D W I L L I A M S — C R O S S R E S E A R C H L L C

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SECTOR — MULTIMEDIA SOFTWARE

(ABV810) TWST: What do you cover in the application software space?

Mr. Williams: I think of it as e-business. Essentially it covers all the market caps; it's everything from very small application players all the way up to the big guys — **SAP** (SAP), **Oracle** (ORCL), **Microsoft** (MSFT). We don't officially cover **IBM** (IBM), but we have to watch every move it makes to analyze what is happening in the sector.

TWST: How do you define application software, or e-business, as you call it?

Mr. Williams: For us, the first cutoff is that it's business, it's software used for business. That is a big differentiator in and of itself. Then from there, it's not industrial control software, it's application software, and it's really a sticky business. You can draw the industrial side in as an edge application, but primarily what we're talking about is the operations within the four walls of a company and then connecting businesses to businesses.

TWST: Where are we in the e-business/application software sector?

Mr. Williams: I would say that 1992 to 1995 or 1996 was a period of invention. Then 1997 to 2000, it's a frenzy buying period because of fears of Y2K, and the solution was to use enterprise software and you could get out of your Y2K problems. Far too much software was bought, it was not well understood and the software required huge amounts of integration work. At that time, for every dollar spent on software licenses, you could look to spend between five and 10 times that amount to get it all hooked up and working together. That was the Achilles' heel. From 2000 until probably 2007, maybe 2008, the marketplace was preoccupied as the customers were unhappy with the expenses associated with software, and it took a really long time for enterprise software to fully integrate into the business world. I credit the whole jobless recovery era as being the result of enterprise software that made business dramatically more profitable and more productive, therefore not needing as many employees.

Retail, for example, in the last

Highlights

Richard Williams discusses his coverage of what he calls "e-business" companies and the significance of the integrated enterprise software stack. Mr. Williams offers and in-depth analysis of the competitive landscape within his sector, paying particular attention to the dynamic between Oracle and IBM. He offers stock recommendations and explains which companies will be best positioned moving forward.

Companies include: SAP AG (SAP); Oracle Corp. (ORCL); Microsoft Corp. (MSFT); International Business Machines (IBM); Accenture plc (ACN); Salesforce.com (CRM); Amazon.com (AMZN); Cisco Systems (CSCO); Sybase (SY); Red Hat (RHT); Hewlett-Packard Company (HPQ); EMC Corp. (EMC); VMware (VMW); Novell (NOVL); JDA Software Group (JDAS); Lawson Software (LWSN) and Ariba (ARBA).

recovery had the lowest level of inventories on record; it had the fewest number of seasonal hires on record and no one adequately explained why that happened. My theory is that it's enterprise software that finally came online and started becoming really useful. Management in general began to realize just how good this stuff could be. That also coincided with the beginnings of the financial crisis. So financial crisis comes and businesses start realizing very, very quickly that no one is going to see a period of boom times again for a long time. At that point, retail, which had always been probably a decade or more behind in enterprise software adoption, suddenly turned into some of the biggest investors in software because they realized that they can't make money the way they previously did, which was to open new stores. When you can't open new stores, then inventory management becomes a killer. They had to invest in order to reduce their inventories and get their cost under control. So just at the point that most of the economy was crashing, oddly enough retail stepped in and started buying in a big way.

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1-Year Daily Chart of Oracle Corp.

Chart provided by www.BigCharts.com

The other coincidence was that the integrated suite came into its own around 2005. As we entered 2008 and the financial crisis, the suite started to be able to do what it said it could do. By the end of 2008, when we were in the start of the recession and things looked really terrible, enterprise software companies were able to go to retail customers, for example, and say, "In six months time, we can pay back your investment for the software you installed in savings. It will take six months to install it and get it running, and six months later you will pay it off." That's phenomenal. If you look back to the beginning of a decade, it was more like a five-, six-year payback cycle, one to two years to install and another four years to pay it off. So to do the whole thing in one year was unbelievable. It wasn't just retail, it was in a lot of places.

As vendor integration has really caught on in a big way, it gave rise to the integrated stack. The integrated stack is, in my mind, the precipice. It's where the old way of doing things comes to an end; the key to it all is reducing costs. Up until the advent of the integrated stack, there were hundreds and hundreds of small enterprise application companies, and they all ran on dedicated servers. And if you wanted to have a new incremental capability, then you have to go and buy the hardware to install, put software on the top and then pay **IBM** a lot of money to make it work. Now with integrated stacks — **Oracle** was the most obvious but not the first to do it — it's essentially taking hardware infrastructure, middleware, and then the enterprise software stack put them all together. When I say "stack," I'm talking about literally the computer stack of operating instructions that runs in the computer memory. The enterprise software stack sits on top of the middleware stack, middleware sits on top of virtualization, and then below that is the operating system, and then you get down to the hardware. The idea is when you integrate the whole thing, then **IBM** is out of a job. You no longer need to pay **Accenture** (ACN), **IBM**, any other system integrators or consultants to come in and make things work. You can just plug it in and it works. That's really the big change.

Last week **Oracle** opened the Exalogic Cloud Box and the Exadata Database Machine. Those are two examples of integrated stack solutions. **SAP**'s Business ByDesign, **Microsoft**'s Dynamics are also integrated stacks. But the idea is that if **Oracle** can go in and sell to the high end of the market these slices of data center capability and do it for a lot cheaper, then it's going to set off a tectonic shift amongst the major tech companies. There is going to be a tremendous period of scrambling, realigning and repositioning. Everything has come along in an incremental way over the last decade. But if the Database Machine and Exalogic Machine really start to take share in a big way, then I think you will see major companies merging, other companies moving into totally new spaces, a host of little acquisitions and some giant acquisitions. It will literally change the landscape, and in the end there will be three to maybe five vendors selling integrated stacks, and there will be very few independent application providers.

Where we stand today is that **Oracle** is selling the Database Machine now for a year and has built up a nice pipeline of orders for that business. Exalogic is just starting to sell; it will be interesting to see how that plays out. The whole game is that they can go to a large company — take **Facebook**, which is what Larry Ellison used in his example. **Facebook** has hundreds and hundreds of millions of dollars' worth of servers and middleware, and data centers and people running these data centers. With the Exalogic Box, it's so giant, so powerful, that two of those literally could run the entire 500 million users on **Facebook** with just these two boxes. You can imagine you don't need a whole lot of a people to run two boxes. It could all but eliminate the data centers from **Facebook**'s operations. **Facebook** may be paying $50 million or $100 million for these huge boxes, but when you consider how much is saved over the old way of doing it, it's a significant savings.

Microsoft can do a similar kind of switch, where they take a shipping container — they call it the Azure appliance — and stack their software on top of it. They literally drop it off in a customer's parking lot, deploy the hoses, networking and power into it. In 24 hours of data migration, you can take a large corporation that uses Lotus Notes, and flip a switch and it will be on **Microsoft** Outlook — just like that. If it only takes 24 hours and most importantly the company can save between 20% and 30% in operating costs over the original database setup, it's revolutionary from the IT department's perspective; it's incredible.

That leads us into the cloud, because the cloud is really several things that have been lumped together in this cool new thing called "cloud." In reality you could dispense with the whole notion of the cloud and just talk about data centers and processing capability, and rental software and rental hardware. Azure, which is a **Microsoft** cloud platform, basically uses hardware and some middleware for hire. You can rent however much you want. The same thing is true with **Salesforce.com** (CRM), with **Amazon**'s (AMZN) EC2. Those are very large data centers that will rent out capability to you. All a private cloud really is is a corporate data center. But with the new integrated stacks, you can go into those data centers and replace a lot of the really expensive hardware and maintenance and processes with automated solutions and save a ton of money.

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1-Year Daily Chart of IBM

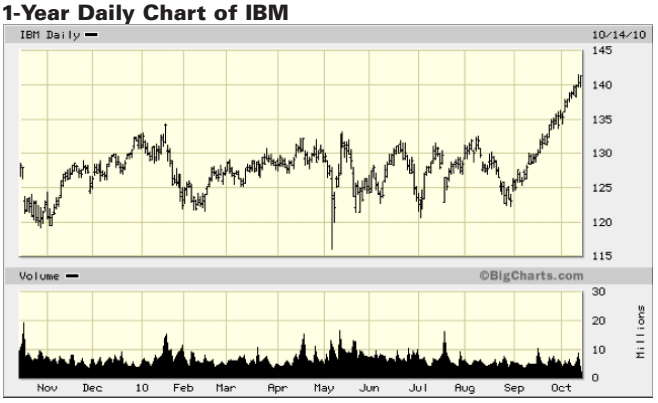

Chart provided by www.BigCharts.com

When IT managers think of the cloud, they are thinking of somewhere between 15% and 30% cost-savings. When enterprise application companies think of the cloud, they are thinking of managed solutions, where you rent hardware and run their application on it, and then either the customer can manage it or the application company can mange it remotely, but it's rental hardware. When you think of **Salesforce.com**, the SaaS players, that's just software for rent. The reason people have so much trouble understanding the cloud is because it really has trouble standing on its own. If you eliminate it and go back to the basics — data centers, rental hardware, rental software — then all of a sudden there's no confusion because it's the way it has always been. The only thing that's different, in my opinion, is that integrated stacks are making it possible to reduce the cost of delivery. As you reduce the cost of delivering hardware as a rental service or software as a rental service, or even whole data centers, then it becomes possible to reduce your cost by centralizing and automating data center operations. The truth is although it hasn't always been realized, enterprise software is about cost-savings. It's not about cool technology, it's about how to save money. As long as you keep that in mind, keep it focused on that, it makes a lot more sense.

TWST: Who is best positioned to take advantage of this huge change we're about to see?

Mr. Williams: Oracle, if they are able to successfully integrate their applications, because they have a special situation where they bought billions and billions of dollars' worth of applications from different companies, they lump them all together, and that's how they've made their numbers for the last probably 20 quarters. They have this remarkable task, probably one of the most difficult technological challenges ever faced in enterprise software — they have to connect all these disparate software companies together so that they can work together. It's a king-size migraine that is unbelievably difficult. It's difficult to the point of impossibility. But if they can succeed, it will be amazing.

There are big companies who don't believe they can do it, like **IBM**, for example. Samuel Palmisano told me that **IBM** is essentially betting that **Oracle** can't integrate. If they can, then **IBM** is very poorly positioned. If **Oracle** can't, then **IBM** is almost ideally positioned to pick up the pieces. **Oracle** could be a survivor. It may be a major blowup, and they could hit a wall in three to five years, we don't know.

The fascinating part, from my point of view, is in a way it doesn't matter. The reason I say that is because by the time we find out whether **Oracle** is bluffing or not, it will be too late to try to avoid dealing with them. In other words, by the time you know whether they are real or not, you will have already had to make your decision as to whether to embrace its technology or not. That to me means that **Oracle** effectively succeeds in this bluff, whether it really is bluffing or not. **Oracle** is going to get a three-year-plus pass before anybody can really challenge it. That's important because that gives them lots of time to take market share away from **SAP** and **IBM**.

The interesting twist is that for every dollar of license revenue they take away from **SAP**, it takes away $3 to $5 of integration and consulting business from **IBM**. Thus, **IBM** is actually the bigger loser as this thing progresses. Essentially what we think is going to happen is that if **Oracle** succeeds in selling these, even if it's only for a period of a few years, it's going to force all the big guys to react. I am thinking that if **SAP** loses enough share to **Oracle**'s integrated stacks, then it's going to have to find a solution. They've

kind of painted themselves into a corner with their current strategies. I am predicting that they will end up asking the EU Commission to let them merge with **IBM**. **SAP** and **IBM** are a dream combination. They could in a matter of just a few weeks bring to the market a fully integrated solution that would be every bit as powerful as **Oracle**'s. In fact, they've been selling that solution for many years, it's just that **SAP** sold it in pieces and **IBM** put it together in pieces instead of integrated stacks. In order to do the integrated stack, you really have to own the software; you can't just do it in a partnership because it requires that degree of trust that's just too much for partnerships to withstand. So as a result, we think **SAP** and **IBM** will end up getting married.

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In the year 2000, software, for two to three years there, really was the most exciting game in town. There was nothing more fascinating than watching our world change before our eyes. It's going to happen again, it is happening again, and it's going to be even bigger than it was back then. We're not just talking billions, we're talking hundreds of billions in acquisitions, and we're talking major league rewriting of the rules to the point where we're not even going to recognize some of these companies.

1-Year Daily Chart of Red Hat

Chart provided by www.BigCharts.com

We think that **Cisco** (CSCO) is going to be tempted into the software game. If you think about it, right now **Cisco** controls about 50% of the data center. It's just that the 50% it owns through networking is not where most of the money is. Most of the money is on the server side, which is why we think they got into servers. It was almost inexplicable why they got into servers a year ago. No one could figure out why. I've developed a new set of contacts that are in corporate data centers because I figured out that's going to be the battle ground, that's where all the interesting stuff is happening. They are the ones who are in the best position to help me understand it. So what they say is that **Cisco** would need to move into the other side of the data center because that's where more of the value gets spent on servers, on software, on manpower.

The other reason is that Fibre Channel, which I am told is the platform that **Cisco** uses for all of its networking, is now being threatened by Ethernet. The two standards are converging, and odds are because of cost reasons, Ethernet could win. So you could find Fibre Channel protocol running on Ethernet plugs. If that happens, then all of a sudden **Cisco**'s monopoly could get challenged on its side of a data center. That's maybe another reason forcing **Cisco** into the game. If and when it decides it needs to be in the other side of the data center — and I think it's already started with the intrusion into the server space — then what happens is that they've got to have all the gathered pieces. The problem is that when **Oracle** bought **Sun**, it captured a lot of the remaining assets, independent application and infrastructure assets, in the marketplace such as MySQL and Java. MySQL was an independent database that a lot of small and mid-sized companies were developing their businesses on. Now **Oracle** controls it. How comfortable are you building a business that competes with Larry Ellison on a platform he controls?

The next choice is **Sybase** (SY). It was the only other database company out there that was enterprise-class capable. **SAP** bought them for a rich price. Why would **SAP** do that? They said it was for the global assets. My opinion is that it wasn't just global assets, it's the database. They need the database because up until now, they've been database agnostic, but the problem is that with integrated stacks, they could get cut out of the game. They need to be able to build in essence their own stack. **IBM** has its own database, but it's not a tremendously capable database. It's been the share loser for the last few years. **Microsoft** SQL has been the share gainer over the last few years. **Cisco** looks into this marketplace and must wonder what the heck they are going to do; they can't get a database. App servers are in similar short supply. **Red Hat** (RHT) has one, but **Red Hat** is widely considered to be overpriced. It creates a major roadblock. So we think that this lack of candidates to buy is going to create havoc, because if **Cisco** wants to enter the game, it's going to cause all kinds of interesting developments to follow. Either they are going to develop at a breakneck pace, or they are going to have to buy somebody. It becomes like a rock meeting a hard place; it's a very explosive situation.

I guess the next problem we run into for **Cisco** is that there is no good enterprise software stack. **Infor** is the only other sizable stack. The problem is that it's very much like **Oracle**. It's made up of about 25 enterprise software companies lumped together. So in order to make that work, you're going to have do an **Oracle**-like integration effort, but it's going to be really, really hard. Interestingly, **Microsoft** Azure, its cloud platform, was named about a month ago as the standardized platform for all future developments for **Infor**. That's an intriguing development because in a way, it could be that **Infor** is aligning itself with **Microsoft**. It's going to integrate and create a high-end stack that perhaps **Microsoft** could then use to fill its own gap in that same space.

The other fascinating part in all this is **IBM**. Two years

ago, **IBM** insisted that it was going to be a cloud player with Blue Cloud. Last year same thing. In March or April, when they had their analyst day, we thought that cloud was missing. I found out from **Microsoft** recently that **IBM** may be interested in doing a partnership with Azure. Now for **Microsoft** to want to get in as a partner with Azure means it's not going to directly compete, which means that **IBM** is not in the cloud business effectively. If so, that is huge. Basically you can see how things are beginning to fall out. We have **Oracle**'s integrated stack; we have **Microsoft** using its Azure platform to compete at the high end and put together its own integrated stack; you have **SAP** and **IBM**, the holdouts, waiting to see what happens; you got **HP** (HPQ) and **Cisco** in the wings. **Cisco** owns part of **EMC** (EMC), which is storage, and part of **VMware** (VMW), which is virtualization to critical components to build its integrated stack. You got **Red Hat** floating around with both an operating system and an app server, both critical elements. The same thing with **Novell** (NOVL). So there are all these things going on, like sharks circling, and nobody has made the move yet. But I think as soon as **Oracle** is able to prove that those integrated stacks are being accepted by customers in increasing numbers, I think that's what's going to set off the frenzy.

TWST: You mentioned the bigger players. Do the smaller players have any chance in this?

Mr. Williams: They do, and it's interesting how that plays out. There are three companies I cover, **JDA Software** (JDAS), **Lawson** (LWSN) and **Ariba** (ARBA). All three are billion-dollar-market-cap companies, all of them with a focus, a very specific niche. **JDA** is building their own data center, and **Lawson** is using **Amazon**'s EC2 as rental hardware. Then they offer their customers hybrid cloud applications. You can get **Lawson** ERP, which is used in approximately 60% of the hospitals in North America, and instead of having to build your own data center or maintain your own data center, you can rent it from **Amazon** and have **Lawson** run it for you, saving 15% to 30% on operating costs if you do it as a hybrid application. So it's dramatically less expensive.

TWST: We've certainly covered a lot, but is there anything else going on in the space?

Mr. Williams: To me, it's this whole convergence and the development of a whole new forum to compete that really is a driver. Everything else, cloud and SaaS and those kinds of things, are semantic subsets within this larger game. Once you understand the larger game, you understand why cloud in and of itself doesn't mean that much. There is much more to understand, the dynamics of the integrated stack, which are really the pieces upon which the cloud is predicated.

TWST: How did you get into this area?

Mr. Williams: It's a funny story actually. I was an institutional salesman, and the more I went in selling ideas to my institutional customers, the more they encouraged me to do the research myself. I got to the point where I was going way deeper than a salesperson had any reason to go. It stopped making sense to be a salesman and maybe more sense to become an analyst. So I did that.

TWST: Thank you. (LMR)

Note: Opinions and recommendations are as of 09/29/10.

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