



The Mainstream

An article from the IBM @server zSeries software newsletter

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End-to-end management, from customer to mainframe: One-on-one with Andy Mullins, VP of IBM Tivoli zSeries and Distributed Technology

*from The Mainstream, Issue 9 - 2004
The IBM @server zSeries and S/390 software newsletter*

IBM® further cemented its leadership in end-to-end middleware solutions by acquiring Candle Corporation, which offers a broad set of solutions to help businesses develop, deploy and manage their enterprise infrastructure. Candle's infrastructure management solutions, which help optimize enterprise data centers and application infrastructure, cover a wide range of hardware and software, including IBM DB2®, Lotus®, Tivoli® and WebSphere® software, as well as IBM @server zSeries® platforms.

The acquisition provides businesses with an integrated set of end-to-end management tools to help quickly isolate, identify and fix problems in their complex environments. This enhanced set of software solutions for managing end-to-end infrastructure, processes and applications are key requirements for an on demand operating environment.

Recently, Mainstream sat down with Andy Mullins, former Candle president and COO and current Vice President of IBM Tivoli zSeries and Distributed Technology Organization, for some specifics on what the Candle acquisition means for zSeries customers.

Mainstream: Andy, what's the plan and strategy for this acquisition as it relates to zSeries customers? Are there unique advantages that mainframe customers should be aware of?

Mullins: A major reason for this acquisition is to offer zSeries customers the best management solutions in the market. We're doing that by combining the strengths and best features of



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solutions and technology from IBM Tivoli and Candle Corporation into a comprehensive portfolio of end-to-end management tools.

Over the last 27 years, Candle has built a reputation for providing leading-edge management tools that optimize performance in complex IBM mainframe systems at work in large enterprises. What Candle lacked — and now, what IBM will provide — is the ability to make the enhancements and investments necessary to provide a complete set of solutions that help customers take advantage of all the benefits that zSeries has to offer at the greatest efficiency and lowest total cost of ownership.

Mainstream: How will that be done?

Mullins: Managing mainframes, which has long been a very stable discipline, is now undergoing something of a revolution. First of all, zSeries customers are leveraging their mainframes in a variety of new ways, including Linux® applications, network services and enterprise applications such as Siebel and PeopleSoft.

Second, the sheer number of transactions and interactions demanded by today's mainframe-based applications is increasing dramatically. They're flowing in and out of mainframes from a wider variety of heterogeneous resources, such as Web applications, client-server applications and even high-volume resources located far from the data center, like ATMs.

Customers tell us that to reach their business goals, they must manage much more than the zSeries environment lying inside the walls of the data center. They also need to manage the extended zSeries environment that ranges across myriad environments, subsystems and applications. To do that, they've got to manage performance across the entire enterprise, based on accurate knowledge of their end user's experience. End-to-end management is the only way



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they can find and fix problems quickly in these complex, heterogeneous environments before they impact performance and end-user satisfaction.

By combining the best features of Tivoli and Candle management solutions, we can offer customers a portfolio of tools that takes end-to-end middleware management to a new level of management that's required to achieve a true on demand computing environment.

We believe that no other single vendor can supply such a comprehensive management solution, which will help customers not only optimize performance, but do it at better price points.

“We can offer a portfolio of tools that takes end-to-end middleware management to a new level of management required to achieve a true on demand computing environment.”

Mainstream: How do you make that happen?

Mullins: Analyst studies show that most companies use 15 to 20 vendors for systems management and have more than 50 management tools. In other words, they're using complex, heterogeneous tools to manage complex, heterogeneous IT infrastructures.

Consolidating these management tools and processes around a single vendor can greatly simplify training requirements, improve resource utilization, speed problem resolution and reduce TCO in many ways. Until now, no single vendor had the ability to produce such an all-encompassing



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solution. That's the unique advantage that Tivoli zSeries management solutions can offer mainframe customers.

Mainstream: Okay, so with Candle providing a suite for enterprise and application infrastructure management solutions that span a broad range of systems, vendors and environments, what's the big news to customers?

Mullins: It's that finally, a single vendor can provide a set of integrated, industry-leading monitors and consoles to give them an end-to-end view across their entire IT infrastructure. And when they're trying to find and fix problems, the combined Tivoli and Candle management tools provide a close-up look at individual segments of the infrastructure or specific resource monitors for detailed performance information.

In fact, the power of these combined solutions has engendered a new capability that we call "Business Transaction Management." This simply means that businesses now have the ability to monitor and manage individual business transactions on an end-to-end basis across their enterprises.

Transactions are the lifeblood of applications. By managing transactions with our tools, businesses can view the end-to-end performance of their applications and infrastructures to a very fine degree of detail. Is a critical transaction completing on time? Is it following the right path and touching all the resources it's supposed to touch? Monitoring transaction performance can be an early-warning system that alerts IT staff to problems before they impact end users. When a transaction isn't executing as it should, you can drill down to the resource level to find and fix problems quickly.

"Now, a single vendor can provide a set of integrated, industry-leading monitors and consoles to provide an end-to-end view across an entire IT infrastructure."



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Mainstream: That aligns directly with recent mainframe management trends, doesn't it?

Mullins: It sure does. Our approach is right in line with trends reported by industry analysts such as META® Group, a leading provider of IT research, advisory services and strategic consulting. In its June 2, 2004, study of infrastructure and application management,* META Group noted several interesting trends.

Mainstream: Such as?

Mullins: First, spending on management tools is now increasing in nearly every category, led by server monitoring. Based on what users told them, META Group concluded that the increased interest in server monitoring is a reaction to a lack of problem-resolution data, and that users want those server monitors to help correlate server data with application-level information. Customers are clamoring for ways to achieve a clear cross-system view so they can better manage performance in complex, heterogeneous environments.

Second, META Group's study showed that when customers are sizing up management tools, a key priority is tool integration. In fact, customers rated tool integration as a more important factor than being best of breed.

Well, that's exactly what we are offering: an integrated set of end-to-end management tools that will help customers quickly isolate, identify and fix problems in their complex environments.

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Mainstream: What's the overarching vision with this acquisition in terms of delivering value to the customer?

Mullins: Our goals fall into three main areas:

Lowering the total cost of ownership for our mainframe customers;

Increasing the workload and flexibility of mainframe systems, so new applications such as Linux, Java™ and others can take advantage of the high standards of availability, reliability and security that mainframe systems are known for; and

Reducing the complexity of managing and developing applications for mainframe environments.

We're already seeing the benefits, with synergies not only in IT philosophy and outlook, but also in our approach to technology and managing sophisticated IT systems. We've discovered that we're able to make our solutions and technology work much faster than we first thought.

Mainstream: Can you cite an example?

Mullins: Well, we've already been able to combine Tivoli and Candle solutions to develop a working demonstration of an end-to-end transaction management process. The demo shows how we're able to trace an individual transaction from an end user all the way through the distributed system and host systems. Using Tivoli's TMTP solutions and Candle's mainframe and end-user performance monitors, we conduct detailed analyses as to what's happening at each step as the transaction flows through those disparate systems. So we can show our customers how these systems can work together.

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With Tivoli's superior distributed monitors and Candle's proven solutions for mainframe platforms, we can now offer customers a complete and powerful set of integrated solutions for true end-to-end management, which takes them closer to achieving an on demand operating environment. It's a win-win situation for our customer base.

“We can now offer customers a complete and powerful set of integrated solutions for true end-to-end management.”

Mainstream: Why are Candle's OMEGAMON® solutions the market leaders?

Mullins: The roots of the Tivoli OMEGAMON solution set go back to 1976, when Candle introduced OMEGAMON, the first real-time performance monitor for IBM mainframes. In fact, some people credit OMEGAMON with creating the IT software market known as performance and availability management. Not only did Candle get there first, but we spent the next 27 years primarily focused on developing the best mainframe management solutions. That focus shows in the depth, quality and expertise built into the Tivoli zSeries solutions.

IBM controls 85 percent of the mainframe market today. In Candle's niche of mainframe management tools, we've been the leader with more than 3,000 customers worldwide, including the great majority of both the Fortune 500 and Global 2000 companies.

Mainstream: Those are pretty impressive statistics. Can you really back them up?

Mullins: Sure. According to Mark Ehr, research director for Enterprise Management Associates, Candle OMEGAMON solutions have been leading the market for over 25 years. And IDC's Tim Grieser, program vice president for Enterprise System Management Software, noted that for the combined period 2001-2002, Candle led the industry with the highest total mainframe performance management software revenue, largely on the strength of the OMEGAMON products.



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Mainstream: Are your customers as enthusiastic about you as the analysts are?

Mullins: Based on what they tell us, OMEGAMON solutions remain the market leader because of our continued efforts to increase the business and technical functionality in them. Our customers generally praise us in three important areas.

One is proactive monitoring and management capabilities, including the ability to integrate data for correlation across multiple systems and subsystems, that allow potential problems to be found and fixed before customers notice any degradation of service.

Two is the ability to set performance alerts based on business rules, which links problem reporting to end-user needs, reduces the incidence of false alarms and allows customers to use less-experienced employees to handle problem resolution.

And the third is integration of historic and real-time performance data, which helps customers accurately allocate resources and conduct proactive strategic planning.

Mainstream: You've mentioned end-to-end performance management a couple of times. What is the real-world importance of that?

Mullins: End-to-end performance management is an absolute requirement to realizing the vision of an on demand environment, where companies can respond quickly to any customer demand, market opportunity or competitive threat. We believe that by combining Tivoli management solutions with the OMEGAMON portfolio, IBM is the only company that can deliver a true end-to-end management solution.

Mainstream: How exactly are you defining "end to end"?

Mullins: Let's look at the phrase in the most literal sense. At one end, there's the customer or end user, who initiates transactions and kicks applications and systems into gear. The other end is the mainframe, which stores the vast majority of critical corporate data.



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Tivoli is unique in that we can actually measure the end-user experience from one end of the enterprise to the other. Some competitors talk about their end-to-end capabilities but don't actually have solutions to manage the mainframe — a very serious omission.

When you know what customers are experiencing at all points of the enterprise, you can better tune performance in the right ways to ensure high levels of service. And when you consistently deliver high levels of service, you have loyal and happy customers.

Mainstream: What improvements to the portfolio can customers expect from IBM?

Mullins: There's no question that IBM is dedicated to extending its leadership and innovation in the mainframe market. It dominates all aspects of the mainframe platform, from hardware to infrastructure software to middleware to development tooling.

Each year, the number of MIPS sold increases. In 2003, MIPS shipments were up 30 percent over 2002. Plus, the amount of capacity installed keeps growing, too. We're also working hard to support new workloads on the mainframe. IBM shipped more than 300,000 Linux MIPS in 2002 and the first half of 2003, and we're also providing J2EE-centric solutions on the mainframe.

All this effort shows that customers can expect continued improvement and investment in the IBM and Tivoli mainframe portfolios for a long, long time.

Mainstream: And the Candle acquisition strengthens that hand?

Mullins: Exactly. It enables us to more quickly exploit the latest and most important features of the zSeries platform to help customers achieve their goals. Together, we're developing a solid product roadmap that seeks to combine the best features of Candle and IBM management tools into more powerful versions.



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Mainstream: Can you cite an example?

Mullins: Okay, here's one. We're moving quickly to adapt our solution to help customers get the most benefit out of the new version 8 release of DB2. Version 8 is packed with important features and capabilities to address issues facing many z/OS installations, such as the growing capacity and complexity of applications.

As customers migrate applications to version 8, Tivoli OMEGAMON for DB2 V8 can help them detect and resolve problems, alert them to problems before they impact end users, and manage the database to keep applications running smoothly and cost-effectively.

I guess that my blanket statement here is that across the board, we're investing in improving our management tools to help customers quickly take advantage of zSeries capabilities such as provisioning and workload balancing. We're also changing our internal organization to speed up those improvements. We're aligning a Tivoli zSeries marketing team with the zSeries R&D team to ensure that we're working on leveraging the zSeries capabilities that matter most to customers.

Mainstream: In any acquisition, there's bound to be at least some duplication to deal with. How is that being addressed with IBM and Candle products?

Mullins: As I said earlier, one of the greatest revelations that has come over the last several weeks while working on our product roadmap is just how synergistic our products are in technology and approach. Where we're finding duplicate products, our direction is to take the best features of each company's solution and develop a combined product that ensures our customers have not only the functionality they have today, but also the best of both worlds.

This roadmap will take some months to completely develop, but I can give you some examples now of the direction we're taking with duplicate products:

Candle's OMEGAMON for CICS® and OMEGAMON for IMS™ will adopt some features of the IBM performance monitors for each mainframe environment.



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Candle's OMEGAMON for Storage on z/OS® will take some features from the IBM Tivoli Storage Optimizer.

Tivoli's DB2 Administration tool will adopt some features from Candle's DB/QUICKCHANGE for DB2 and DB/WORKBENCH for DB2.

The IBM Tivoli Monitoring Family for distributed environments will adopt some features from Candle's OMEGAMON XE Family for distributed.

Mainstream: Andy, a moment ago, you mentioned the importance of an on demand operating environment. Can you elaborate on how IT and business professionals will benefit from the now-united Candle/IBM portfolio as it relates to on demand?

Mullins: The on demand operating environment defines a set of open integration and infrastructure management capabilities that customers can utilize, in a modular and incremental fashion, to become an on demand business. These integration and infrastructure management capabilities help customers increase business flexibility and simplify their IT infrastructures in a way that aligns with their business objectives.

The key driver behind the acquisition of Candle was IBM's desire to strengthen its ability to provide an end-to-end management solution across today's complex and heterogeneous IT infrastructures, so businesses can respond more quickly to market changes and opportunities. As market imperatives change quickly, so do complex IT environments. And that opens the potential for performance issues. So we must continue to enhance our customers' ability to find and fix problems before they impact customers and the bottom line. To reach the on demand vision of quick response and flexibility, our strategy calls for producing the best systems management tools and automation capabilities across the entire IT infrastructure.

As proof points, I'm going to talk about some scenarios that our customers say they face each day in the IT trenches. They'll help you see how an end-to-end management approach can quickly help them with some pressing management problems.



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Mainstream: Can you cite an example?

Mullins: Let me give you three typical scenarios.

Scenario #1: You're constantly blindsided by problems. You have 15 to 20 monitors from different vendors watching different portions of our infrastructure. All status lights are reading green, but your customers are calling to complain about performance issues you didn't know existed.

Scenario #2: You know there's a problem, but you don't know where. A few of your monitors are showing red status lights so you know there's a problem. But you have no way to quickly isolate and identify it, let alone fix it. You wind of having to call in dozens of experts from all the resource areas to compare notes and track down the culprit.

Scenario #3: You know there's definitely a problem. Or is there? False positives, or false alarms, occur most frequently in complex, heterogeneous enterprises monitored by complex, heterogeneous monitors. And false alarms waste precious time and resources.

Our integrated solutions, which enable customers to monitor the customer experience across the enterprise down to the single-transaction level, can mitigate these situations. And once customers have found a real problem that needs fixing fast, our solutions help them make sure they'll do it efficiently and cost effectively.

Often, when confronted with a performance bottleneck, the first reaction is to throw more CPU at it. But is the problem really a storage constraint, an access conflict or communications problem? Our end-to-end management tools enable businesses to quickly and precisely determine the cause of the bottleneck and make the right decision on which resources are needed to fix it. That saves time and money. We're improving those capabilities in our Tivoli OMEGAMON solutions right now.



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Mainstream: In mainframe shops today, there are different attitudes about zSeries platform growth and the value demonstrated by the mainframe. In some instances, mainframe shops view availability of applications for the mainframe as a potential inhibitor of future growth. How does the combined Candle and IBM portfolio impact the issues that mainframe shops are dealing with?

Mullins: Look, since the advent of client/server systems, there's been an inevitable clash between the distributed world and the centralized mainframe world. Like most things in life, it isn't a black-or-white decision. It boils down to what's best for your business and what you're most comfortable with.

The quote-unquote death of the mainframe has been declared many times, but as Mark Twain might say, those reports have been greatly exaggerated. MIPS shipments and capacity installation increase annually. New workloads and applications are being developed for specifically for the mainframe.

There are many good reasons for that, especially in today's faster and more complex IT enterprises.

Consider this: The key applications that support businesses have become accessible to more and more people, through more and more interfaces. And these applications, crossing a variety of disparate environments, have become more and more integrated. As that's occurred, the demands for access to the business's core data and transaction information by a wide variety of systems and applications have grown significantly.

Over the years, most companies have found that the safest, most reliable and most cost-effective way to run their mission-critical data and transactions is the mainframe environment.



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Mainstream: So you're striving to give customers the best of both worlds.

Mullins: Precisely. To enable the business to be creative in allowing new applications and interfaces to access and drive the business, and yet maintain a mainframe level of high performance, reliability and security. We have Tivoli OMEGAMON management tools ready for Linux and UNIX® applications. And with our tighter organizational linkage to zSeries R&D, we'll have a head start on developing tools for other mainframe applications in demand by our customers.

We're also addressing a larger issue faced by our customers that goes beyond managing individual platforms, and that's dealing with growing complexity and cost of managing virtually any computing infrastructure. These infrastructures are burdened with disparate platforms and applications stacks, and are piled high with application servers, operating systems, networks, network protocols and more. No organization can afford specialists to manage all those platforms, resources and software.

Mainstream: So what's the answer?

Mullins: Improved automation and management tools. And the type of tools that IBM Tivoli is marketing makes the individual platform irrelevant to operations personnel in the data center. Our tools give them a common language, so they don't have to have knowledge of operating systems, networks or any particular technology within this complex environment. These tools enables them to view the health and performance of everything in that environment.

We're trying to eliminate the need for specialized skills to manage the complex on demand computing environment. Our monitors and automation solutions can be set to operate based on business rules and policies, rather than technological parameters. This way, console operators don't have to worry about things like REXX code or UNIX scripts to keep the infrastructure running as it should to support the business and its customers.



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That intense focus on business requirements is the beauty of the on demand vision, and I'm excited to see how our Tivoli zSeries solutions will help our customers get closer to that goal.

Mainstream: What's your view on platform decision criteria for new workload deployment?

Mullins: For the last 20 years, companies have experimented with shifting workloads to various platforms to squeeze the best performance and efficiency out of their applications. Meanwhile, the demand for mainframe MIPS and capacity continues to increase each year.

I believe that as the number of transactions continues to skyrocket, the need to store and process critical business data in the most stable, reliable environment is more important than ever. And it will continue to grow in importance, as the sheer number of transactions and the variety of applications and interfaces grow at a rapid pace.

The integration of Tivoli and Candle solutions, and the development of a true end-to-end management approach, will better equip mainframe customers to manage new workloads, such as Linux and enterprise applications, in their big-iron environments.

Mainstream: Can you cite an—

Mullins: I know, I know! Cite an example! *(laughs)* Sure. One of our customers is Friends Provident, a leading insurance and financial services company in the United Kingdom. To boost cross-selling, improve service and reduce costs, they wanted to offer fast, reliable access to its complete set of offerings over the Web. That meant critical business and transaction information had to be processed quickly and securely. So, as a longtime customer of our mainframe products, they decided to upgrade to our latest OMEGAMON XE solutions for OS/390®, CICS®, DB2 and WebSphere MQ to make their online strategy work.

Well, Friends Provident told us that the improved OMEGAMON performance management



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system dramatically improved their ability to correlate problems occurring in different systems, which led to faster resolution times and better service. Our improved monitors used 30 percent fewer MIPS, which meant instant cost savings. Alerts were set based on business rules, which meant top priority for alerts went to problems that would most dramatically impact customers and transactions. OMEGAMON XE's ability to integrate real-time and historic performance data enabled the company to better allocate its IT resources and conduct proactive strategic planning.

So in the end, Friends Provident relied on its IBM mainframes, along with superior management tools, to expand its business over the Web safely, securely and effectively. And with the combined solutions from Tivoli and Candle, we'll be able to stretch the boundaries of mainframe workloads even further.

Mainstream: Andy, this has been very informative. Thank you.

Mullins: A pleasure.

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* Source: META Group Inc., "Infrastructure and Application Management Market Study," June 2, 2004.