

# The Linux Line

August 2002

This month in The Linux Line: IBM names head of new IBM Global Services Linux project; Laurie Courage, Director, Internet Strategy and Web Events Worldwide Sponsorship Marketing, talks about Linux as key part of IBM's Web Events scorecard; Axiom Software Labs executive talks about Axiom SL's applications on Linux platform for financial services; IBM announces support for Intel Itanium 2 processor; IBM and Cadence to co-market Linux solutions in the EDA market; Nokia and IBM team up for digital content delivery for mobile devices; SuSE Linux makes Lotus connection in update of SuSE Linux Groupware Server; and much, much more.

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IBM and Cadence to co-market Linux Solutions for electronic design automation market; VERITAS announces tested storage software on xSeries Linux platform; new benefits for Business Partners with Linux skills; SuSE Linux announces Pro-Office CD for state of the art Linux desktop technology ...and more. Page 26

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Lawson Products revs up its e-commerce capabilities via IBM WebSphere Commerce Suite Pro Edition with SuSE Linux. Page 29

### DEVELOPMENTS

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## Top of the line

### DOUG ELIX KEYNOTES LINUXWORLD

Two years ago, IBM was the only major commercial supporter of Linux. Sun was calling Linux a "bathtub of code" and Microsoft called it a "cancer;" a threat to intellectual property and the "American Way." But the

game has changed. This year Doug Elix, the Senior VP & Group Executive of IBM Global Services was a keynote speaker at LinuxWorld in San Francisco, where he talked about how open technologies like Linux, have begun to transform business.

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### AXIOM TURNS TO RISK MANAGEMENT ON LINUX

Axiom Software Labs will demonstrate its software applications with Linux clustering as part of the newly announced Linux Center of Competence showcase in New York. Don Mumma, Axiom's managing director, talks about the customer demands that have led Axiom to support the Linux platform, and its IBM alliance that promises to deliver Axiom's banks and energy customers significant gains in working with complex analytics.. PAGE 14

## Voices

### INTERVIEW WITH BENOIT DEGREVE

Linux Line talks to IBM's Benoit Degreve, formerly a member of the Strategy and Marketing team in Europe in charge of Special Projects, about his important new role in a Global Services Linux project trying the best of Linux across all of Global Services into a single marketing and delivery team. PAGE 16

### INTERVIEW WITH LAURIE COURAGE

The Linux Line talks to Laurie Courage, Director, Internet Strategy and Web Events Worldwide Sponsorship Marketing, about how Linux has become a key part of IBM's Web Events track record in delivering technologies for world-class venues like the US Open , Wimbledon and the Tony Awards. PAGE 19

### INTERVIEW WITH ERWIN STAUDT:

The Linux Line talks to Erwin Staudt, General Manager of IBM Germany, who shares his views about IBM's agreement with the German government in providing public organizations with Linux hardware, software, and other support. PAGE 22

### DID YOU KNOW?

Robert Frances Group (Westport, CT) has performed a total cost of ownership study to evaluate Web server deployments in mid- to large-sized companies for three target platforms: Linux, Sun Solaris, and Microsoft Windows. The report's findings: Linux is the least expensive platform to deploy and operate, and the ability of Linux to massively scale horizontally, without paying additional licensing fees, can result in significant long-term cost savings.

—Robert Frances Group

## Doug Elix Linuxworld Keynote

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**AUGUST 14, 2002**  
**DOUG ELIX LINUXWORLD KEYNOTE**  
**OPEN TECHNOLOGY AND THE POWER OF IT TO TRANSFORM BUSINESS**

Good morning. I am now the fourth IBM executive to be a keynote speaker at LinuxWorld.

There has been tremendous momentum building since Irving Wladawsky Berger spoke at LinuxWorld in January 2000...letting the Linux community know that IBM was very interested in what he called "an elegant operating system."

In January 2001, Sam Palmisano, who has since become our CEO, took the stage at LinuxWorld New York to proclaim that Linux was ready for real business...and that we would back that statement with a \$1 billion investment in Linux development, technology centers, advertising and marketing support.

A year later, at LinuxWorld 2002, my colleague Bill Zeitler confirmed that our investment in Linux had paid off, reinforcing our conviction that the world was ready for Linux and more importantly that the open movement would drive the future of the IT industry.

So, my three colleagues have laid the groundwork and as a result today I can point to a growing roster of Linux customers, like one of the largest deployments to-date of Linux in a retail store chain for Sherwin Williams or our own decision to use Linux to help run our Lotus Notes applications for 300,000 users or our use of Linux to run the events infrastructure for major sporting events like the U.S. Open and Wimbledon.

Two years ago, being on this stage as a major IT company was a lonely place. When Irving and Sam spoke, we were on our own as the only major commercial supporter of Linux. Sun was calling Linux a "bathtub of code." Oracle and HP were silent.

And as Linux's popularity grew, Microsoft began calling it a "cancer" and a threat to intellectual property, and the "American Way." As recently as this June, it was linked to a survey released by the Alexis de Tocqueville Institute, a Washington, D.C. Think Tank, which warned that the widespread use of open software would make it easier for terrorists to hack or disrupt U.S. computer networks.

So it was a lonely stage two years ago. Today... we have to share that stage with a crowd of tree-huggers and self-proclaimed converts.

Earlier this year, Carly Fiorina addressed LinuxWorld New York, declaring that HP was committed to Linux and open standards and that HP would do its part to help Linux mature as a platform.

Yesterday morning, Scott McNealy mercifully minus the penguin suit affirmed Sun's support for Linux. And much to the surprise of the technical community informed the world you couldn't download a server... duh. Actually, he's got it wrong again. You can, and I'll tell you more about that later.

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And then, just yesterday afternoon I saw a Microsoft booth in the convention center. I had to pinch myself twice to make sure I wasn't dreaming. In an article in the July VAR Business, Steve Ballmer confessed that Microsoft products are more expensive than Linux, which he said, was causing his company to "go through a whole new world of thinking."

So...the stage is no longer such a lonely place.

Of course, you all know the facts. Quite simply put, Linux represents an ever-increasing share of server operating systems.

IDC ranks it as the industry's fastest growing operating system, expected to grow at a 28 percent compound annual growth rate through 2006, and expects it will surpass Unix server shipments by 2003. Giga predicts Linux will become the dominant server operating system in the United States by 2005.

So what's it all about. Well it's all about open systems, and freedom of choice. In an address to the World Congress of Information Technology earlier this year, I called on the delegates to embrace open standards as key to the industry's future.

Of course, there are others in the public and private sector that share that opinion. The public sector is particularly vocal.

Government organizations in China, France and Germany have already adopted Linux. Earlier this summer, the German government came to IBM and SuSe for help with its decision to standardize its infrastructure on Linux. Why? They were concerned about relying too heavily on the products of one software company. And just yesterday morning, a delegation from the Beijing city government joined our press conference to express their continued interest in using Linux in China.

Linux's momentum is real

So make no mistake... the Linux momentum is real.

I don't have to waste time anymore refuting the myths of Linux: That it wouldn't scale; that it wasn't ready for the enterprise; that it lacked business applications; that it wasn't secure and that Linux skills were scarce. All nonsense and everybody knows it.

Instead, I'm going to let some customers prove my point and explain in their words how Linux has debunked those myths and proven itself as a reliable, scalable and ready for prime-time, operating system.

(Video segment of BBDO)

Scalability is also important. In this next video retailer Boscovs tells how Linux helps them keep pace with increasing transaction volumes.

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(Video segment of Boscovs)

And finally, E-Trade is a leader in personal financial services and their business depends on providing great customer service over their website. E-Trade's support of Linux offers a very strong proof point that Linux is indeed ready for primetime.

(Video segment of E-Trade)

So three serious customers offering powerful testimony to Linux.

By the way, in case there are some presenters who want to pick on any particular example I have used and hijack it to debate who's database or middleware runs better on Linux, they've missed the point. Linux is about openness and freedom of choice. There are other forums to prove who best embraces Linux and, just for the record, we do very well, thank you.

So today let me talk about the impact of Linux and how it's changing IBM and how it's changing IBM Global Services. Most importantly, how our customers are putting Linux to work inside their companies and fueling innovation to drive the next era of their business.

As the head of IBM Global Services I've been watching how our customers have been exploiting Linux within their enterprises for several years. If you have an organization that runs 234 data centers, manages 100,000 servers, 2.5 million desktops...4,344 terabytes of storage and 200 million web pages you tend to pay attention to what customers are doing.

The demand for Linux-related services is growing rapidly. Fourteen months ago, we had 95 major Linux services opportunities in our deal pipeline. I checked last night, there are now 794.

We surveyed our largest outsourcing accounts this year. The 25 largest contracts in each of three geographies – that's 75 of the largest corporations in the world. We found that 14 had Linux running in their shops in 2001, and most were small-scale pilots. And today, in 2002, 22 of those companies were now running Linux and all but three were using Linux on large-scale projects.

Those trends alone are enough to make my business focus on what Linux can do. But beyond that, I want to cite four powerful reasons why IBM Global Services is dedicating more resources to Linux. They are:

- The flexibility that open standards offers customers
- Linux's cost effectiveness
- Linux's popularity with the next generation of programmers and
- And finally, the critical importance it has for new computing models

First, Linux's openness offers our customers incredible flexibility. Linux can run on any

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platform as long as they commit to support the standards. Customers can embark on multi-year projects secure in the knowledge that they will not get trapped or be held hostage by any one proprietary platform. They can take advantage of future improvements in technology, without jeopardizing the sizable investment they've already made.

Second, cost effectiveness. The old fashioned, but now much in vogue return on investment generate results fast.

Here's a video clip from BBDO.

(Video segment from BBDO)

And here, Josh Levine from E-Trade explains how Linux helped his company achieve a phenomenal payback.

(Video segment from E-Trade)

Actually, Josh's comments bring to mind my third "powerful reason. Did you pick that up? 20 to 30 programmers all willing to help solve a problem. So the third reason why IBM is sharpening its focus on Linux is talent. IT programmers love to work on Linux.

Most importantly, the next generation of IT programmers especially the ones who have just graduated or are about to graduate from college are already conversant in Linux. That means we can get them up-to-speed on projects much faster than on other operating systems.

Here's a neat factoid This February, we sponsored the IBM Linux Scholar Challenge. Only 200 were expected to signup, but we had 1462 students from 664 colleges and universities around the world apply, an incredible number for the very first year that we held the event. So no question, Linux is very popular on campus.

Finally, powerful reason number four Linux is becoming the operating system of choice for next-generation computing models, like the Grid.

Researchers clearly prefer to work with an operating system that gives them freedom to experiment with and contribute to the code. As a researcher at the University of Pennsylvania recently explained, "open source is important because we do a lot of tinkering and are constantly developing and modifying the software to tailor it to our needs and make it do exactly what we need it to do."

We'll hear more from him on Linux and on grid computing later, but clearly, if IBM and IBM Global Services is going be a leader in these next generation models of computing and, make no mistake, we intend to be then we have to stay intimately linked to ongoing Linux development efforts.

Customers Value Linux

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Everything that I've said aside, I wouldn't be on this stage if Linux wasn't a really good operating system. That's why countless thousands of customers are adopting Linux. According to IDC, in 2002, Linux server environments will grow 37 percent and account for 9 percent of corporate IT budgets.

Why are enterprises adopting Linux? For the same reasons as the research community. It's flexible, it's open, cost-effective, it's secure and it's reliable.

And in a strange way, it's true that if management doesn't get it well, it doesn't matter because you do.

I'm reminded of a conversation I had with the CIO of a large company two years ago. I told him that I thought Linux was on it's way to becoming part of the mainstream. He was very skeptical, and said, "well, I'm not sure I would want to adopt Linux?"

I replied. "Well, don't worry, you won't have to make the decision, your IT staff will do it for you."

And, of course, they have. Early applications were very logical. At hundreds of enterprises, large and small, Linux was a natural for print, web servers and other niche applications. Now, of course, Linux is being more widely adopted to support enterprise applications and other projects. And many of the CIO's who were once skeptical are now eager to put to Linux to work.

### Linux by Industry

So, Linux isn't just for the research community or any one industry it's relevant to every industry and our customers recognize it.

Last year, our customers displaced 120,000 of other's people's servers with our own so they could run their applications more efficiently and effectively under Linux. In the second quarter of this year, 20 percent of all the "old-fashioned" mainframe mips that we shipped were configured to run Linux. And we have helped our customers complete more than 4,600 Linux engagements.

Linux is becoming an operating system of choice for financial services, media and entertainment, retailing, telecommunications and the airlines industry. In financial services, many banks are adopting Linux because it provides lower-cost IT solutions for Internet banking and their branch networks.

An example is Banco Mercantil, one of the largest banks in Venezuela with 375 branches. They elected to use Linux to improve the availability and scalability of critical functions and to replace 30 servers with just one.

In Media and Entertainment, digital artists are embracing Linux because it dramatically improves their ability to create digital content and graphics. Linux offers a flexible, cost effective platform for digital companies seeking to use high-performance Intel clusters

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for animation. Among such companies are Kodak Digital Cinema, Satellite Records, as well as WETA, the digital arts company that produced the special effects for the Lord of the Rings. In this video clip, the CIO of WETA describes how Linux helped them meet key deadlines for their Oscar-winning special effects.

(Video segment WETA)

The retail industry is widely adopting Linux. As I said earlier, we are currently engaged with Sherwin Williams in one of the largest deployments of an open source system in a chain store environment. As part of the project, Sherwin Williams is upgrading its Point of Sale and inventory applications to run on Linux.

Retailers, of course, crave efficiency. With Linux, they get a platform for their point of sale systems that enables them to reduce costs and build more flexible and adaptable infrastructures. So let's return to Boscovs and let them explain why they used Linux to streamline their server farm.

(Video segment Boscovs)

Next, the benefits of workload consolidation, reduced costs and adaptable infrastructures spans multiple industries. In telecommunications, companies like AT&T, Sprint, SBC, Deutsche Telekom and Nokia are working with us and Linux to reduce expenses as they respond to competitive pressures. More than 50 of IBM's telecom customers are now working with Linux.

Workload consolidation is a major reason why Linux is gaining widespread following in the airlines industry. Air New Zealand just announced that they had signed a major strategic outsourcing agreement to help them replace some 150 Compaq servers with a single IBM zSeries mainframe that will run Linux.

And Korean Air Lines is putting Linux to work consolidating flight crew scheduling applications on servers running Linux and to develop a platform that will support 7,000 users daily and handle the company's new Linux-based e-mail application. The CIO of Korean Air Lines says this.

(Video segment Korean Air Lines)

IBM Leadership

Finally, here's a proof point that I'm particularly proud of. So I'm standing up in front of you responsible for the largest IT infrastructure in the world and if you were to rank the biggest Linux users in the world guess who's on the list: me. I am one of Linux's biggest customers.

We run Linux on 1,100 servers. We use it for ibm.com. And we use Linux to run an application that enhances server performance for our worldwide Lotus Notes e-mail system which supports more than 300,000 employees. Deploying Linux to support our

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Notes infrastructure saves us \$10 million per year alone.

I place a great deal of faith in Linux's ability to get the job done.

There's more. We're hosting more of our customers' web sites on Linux servers. The US Open is just one of the many major sports events sites we run on Linux for its ability to run with a more affordable level of resources, easy-to-port applications and flexibility for future growth. We're able to make a low, up-front capital investment, which we can expand and scale as demand for the site grows, and do it almost instantaneously.

In 2001, we used 295 AIX nodes to support our events infrastructure. This year, we've added more than 150 Linux nodes, which have been the primary ones used to support the US Open, the Masters', the Tony Awards and Wimbledon.

Our resources are building rapidly to meet the rising demand for Linux-related products and services.

- We now have over 3,800 ISVs with Linux-enabled applications.
- Overall, more than 5,000 IBMers help support Linux applications for our customers.
- And virtually all of our infrastructure products...servers, storage, database and middleware run on Linux.

Within my own organization, we now have more than 2,000 people who have extensive experience with Linux that's up from 300 last year. And we now have 50 Linux-related services offerings, double what we had last year. Our offerings range from web hosting to workload consolidations and migrations, from education and training to hardware and software support.

And just last month, we launched Virtual Linux Services. I am very excited about this. The service allows customers to tap into managed server capacity without having to pay the upfront expense of buying the physical hardware. We've merged this with our e-business on demand offering, which means that customers only pay for the processing, storage and network capacity that they require. We estimate that customer savings will range from 20% to 55% on typical workloads. So Scott McNealy, you can download a server.

This offering is going to open the door for companies to merge the advantages of Linux with the benefits of accessing large-scale computing infrastructure on a pay-as-you-go basis.

Synergy with emerging trends in IT

So I hope I made my point clear. Linux has clearly become a major force in the marketplace.

I am sure that all of you are proud of what you have done for your part in making this happen. We at IBM are very proud of our role and the fact that despite the Johnny come latelys, we were the early leader and still are the largest supporter and largest

investor.

Now I'd like to offer a challenge. And it's a challenge I first raised at the World Congress of IT back in February. Now that we no longer have to convince the world that Linux is ready for primetime, perhaps I can ask the Linux community for help in tackling the issue of transforming the enterprise by helping the IT industry resolve the critical issues of connectivity and complexity.

Now when I talk about connectivity in this context, I don't mean networking. I mean the connection between Information Technology and the business, about how business and IT work together. There's clearly room for improvement. When I talk to executives of many, many large enterprises, I find them to be somewhat disillusioned that IT has not done all they thought it could to improve the performance of their enterprise.

There's no doubt, we've made great progress. In the last decade, worldwide IT investment of some \$5 trillion drove tremendous and quantitatively demonstrable productivity gains.

Yet, there are skeptics that remain. A McKinsey quarterly article in January cited a survey conducted in the financial services industry, which claimed that the link between IT investments and productivity was inconclusive.

Well, fortunately there are many other studies that disprove McKinsey's point. Yet, the fact the study was even published points to a sense of unease that IT is not doing all it should to provide a clear return for business.

We're seeing far too much effort and money spent on integrating disparate platforms... instead of using IT to create business value. According to the Gartner Group, technology integration accounts for 40 percent of all IT spending in most organizations. So think of it almost half the effort and expense is not directed toward creating value for the enterprise.

That's where open standards and Linux can play an important role to remove the wasteful expenditures of integrating disparate platforms and architectures and free IT professionals to focus on adding value to their organizations.

Now let me talk about complexity. The simple fact is we're building IT systems that are outgrowing our ability to manage them.

Technology improvements continue to bubble along at the pace of Moore's Law, improvements of computing price performance of 10 to the 15th power since the turn of the 20th Century. So that's not the problem.

It's how we manage it that's something altogether different. We estimate that if IT continues to advance at its current pace, by the end of this decade, we'll need 200 million more IT workers to support the trillions of devices, the billions of people and the millions of businesses that will be interacting over the network by then.

Again, if you remember the testimony from our videos, Linux and the open movement are already addressing this issue. An open standards based infrastructure provides efficiency and scale to handle complex workloads...and allows for easy and flexible application deployment.

So in a sense, Linux and the open movement can help IT professionals raise the bar to one which allows them to devote more time building the applications that will help drive business value...and less on keeping the systems environment up and running.

You know, Linux will play a strong role in new computing models like autonomic computing. In autonomic computing, we are building systems that allow technology to manage itself in much the same way the human body works by building systems that are self-diagnostic and self-healing.

We've started work on an autonomic computing initiative that is weaving the servers, storage and software in an IT infrastructure into one self-managing, self-diagnosing and self-healing system.

So, autonomic computing frees IT professionals from having to spend so much time keeping the system up and running and allows them to focus on how IT can be exploited within the enterprise.

In that sense, autonomic computing sets the stage for computing on an increasingly grand scale grid computing, in which computing capacity is linked together over the Internet to form a virtual supercomputing environment.

It is frustrating to see how much computing capacity attached to the network is woefully underutilized and it's even more frustrating to see individuals who need the power, but can't access this unused capacity.

So all we have to do is make this capacity available to those who need it are authorized to use it and able to pay for it.

And then instead of a passive library, the grid would take us to the next plateau and turn the Internet into a living, interactive interconnected, virtual supercomputer.

Clearly, Linux is the platform for much if not most of the work that we're doing now with the Grid.

Now just as the research and academic communities were among the early adopters of the Internet, they are also among the first to develop and leverage grid computing.

I've said before, we have been working with the University of Pennsylvania in a project funded by the National Institute of Health. Thanks to this Grid, all researchers can access huge amounts of data through advanced supercomputing applications, which otherwise would not be individually available to them.

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Let's hear from the team at the University of Pennsylvania.

(Video segment University of Pennsylvania)

But just as it happened with the Internet businesses are beginning to adopt the Grid as well. Early adopter Butterfly.net, a developer of on-line video games has built the first-ever commercial grid for the on-line gaming community.

By using the Grid, Butterfly.net enables on-line video game providers to support a massive number of players by allocating computing resources to the most populated sites. The providers will divide players among multiple servers, so that no server can make the game unavailable. A truly resilient infrastructure.

Butterfly uses Linux-based servers, because it enables them to integrate new hardware rapidly as they add computing power to support the growing ranks of players.

Another interesting point about Butterfly.net is that it will use the utility delivery model to enable game application developers to take advantage of the Grid. This enables the company to acquire standardized computing resources, network capacity and software applications over the Network on as-needed basis. So Butterfly can match its computing resources to the constantly changing needs of players and providers.

This utility computing model, or e-business on demand as we call it, offers the most efficient way for companies of all sizes to access the power of a more autonomic-like grid computing infrastructure. The utility model allows companies to acquire IT infrastructure, applications and even entire business processes, as services via the network.

We're already seeing companies embrace this concept, like American Express and Telefonica, Empire Blue Cross/Blue Shield.

Open standards and Linux are critical building blocks of the utility model and for tackling the twin challenges of connectivity and complexity.

Call to action

So before I close, let me be clear on what I'm asking you to do to ensure that these new computing models reach their full potential. We start by agreeing to write a charter for the next era of IT I first called for this at the World Congress of IT and I want to repeat it.

(Chart 1)

Clearly all of us in this room today understand that the open movement is critical to the future of serious e-business. Sharing data, applications or computing power will be impossible for companies that are locked into proprietary platforms.

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There is no way to connect and simplify a complex infrastructure integrate applications and allow them to talk to each other across a grid-like infrastructure even those within an enterprise without open standards.

Ushering in this era of open standards will require unprecedented levels of cooperation amongst all IT companies. It can be done.

Earlier this year, at the Global Grid Forum we joined with the Globus Project and Microsoft to encourage the adoption of an Open Grid Services Architecture a set of consistent, open protocols that cover everything from physical resource management to availability, security and middleware.

The architecture envisions a totally shared environment. In short, Open Grid Services Architecture is a template for the open integration of everything and the construction of grids anywhere.

(Chart 2)

Our responsibility doesn't stop by just supporting the open movement.

I'm urging you to not lose sight of the fact that enterprises need to drive value from their use of IT. We as IT professionals need to bridge the divide between IT and the business. Seek ways to spend less time on the "gorp" and more on delivering value to the enterprise. Disillusionment with IT investments will cut off the very lifeblood we rely on to advance money.

(Chart 3)

Third, this is important. We must work together to deliver secure and reliable IT infrastructures that are immune to physical or electronic attacks and are adaptive to rapidly changing demands.

Open source provides highly reliable, peer reviewed code, which makes it perfect for security and trust as well as reliability. To that end, Linux can be one of the cornerstones of a resilient global IT infrastructure. This infrastructure, which would be dispersed, connected by grid computing networks and managed and protected by robust autonomic systems can be both secure and adaptable to the needs of the marketplace.

(Chart 4)

And finally, a personal note, think for a moment about how we take utilities like water gas electricity and the phone for granted. Think how inconvenient our lives would be without them.

We need to think the same way about Information Technology. Despite a few luddites, most people would agree that without Information Technology our world would be much worse as a place to work and live.

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So the challenge before all of us here today is not just to use IT to improve business, but to make it improve the way we all work and enjoy our lives. That means putting the same amount of energy we put in to build the bridge between business and IT, into making the world a better place for all.

Ladies and gentlemen...thank you.

## Risk management on Linux

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### RELATED READINGS:

<http://www.ibm.com/linux/aug02/resource>

**SUMMARY: IBM® RECENTLY ANNOUNCED THE NEW IBM LINUX CENTER OF COMPETENCE (LCOC), TO SHOW CUSTOMERS WHAT THE CENTER'S CO-FOUNDER JOHN VITKUS CALLS "THE ISV UPTICK IN THE FINANCIAL MARKET SPACE," INCLUDING THE AXIOM SL SOLUTION TO HANDLE RISK MANAGEMENT.**

At the IBM Linux Center of Competency, Axiom Software Laboratories will be on board as one of the key ISVs working with IBM. Axiom SL will be showcasing how its data management and risk-management applications perform optimally in an IBM @server Xseries™ Linux cluster with the DB2® Universal Database™.

For data-intensive customers in the financial services world who turn to Axiom SL for enterprise data- and risk-management solutions, the enhanced capabilities achieved in combining Axiom's systems with the strengths of xSeries Linux cluster/DB2 come none too soon for them in light of the rigorous demands for data in sophisticated analytical markets. These customers include banks and energy companies seeking robust computing solutions.

The company's core products include IntegrationCenter, which is a data management platform and warehouse, and RiskMonitor, which is Axiom SL's high-performance analytical engine.

Axiom has made IntegrationCenter available on IBM's @server xSeries Linux cluster using DB2 as well as RiskMonitor on the same platform. Combined, RiskMonitor with IntegrationCenter are used by financial and energy companies for integrating and managing market, credit and operational risks.

Axiom's decision to integrate its software applications with IBM's Linux cluster technology environment is a direct response to its customers' needs, says Don Mumma, managing director at Axiom.

"People want to work from a common framework," says Mumma. "They are trying to bring data together according to market demands. During a work day, people measure their respective slices of the world; at the end of the day someone wants to see a view of the whole world, and they need a data infrastructure to do just that."

Mumma says that Axiom plans to have the Linux cluster/DB2 environment for its software available for viewing by visitors at the Linux Center of Competence. "They will be able to get a demo on-site there or in our company." Mumma says those opting for company pilots and workshops would be giving Axiom a sample of their data. "We spend a day with them and they kick the tires." The IBM center, he adds, lends special value for customers seeking a wide view of technologies at work. Serving Wall Street, the center is addressing all those in the financial community who can benefit in learning more about advantages of the Linux environment.

For Mumma, the Linux advantage for both his company and customers' businesses is clear. "Looking at directions in data management and risk, we see that Linux and the open environment is where people want to go."

## Risk management on Linux

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Axiom's president, Alex Tsigutkin, believes the IBM platform and working relationship with IBM likewise bear significant benefits. "Axiom is pleased to work closely with IBM to port its data management, warehousing and risk management applications to the IBM xSeries Linux cluster with DB2Universal Database," says Tsigutkin. "These mission-critical applications are designed to scale to support the largest global enterprise requirement. The combination of DB2 and xSeries Linux cluster creates the more reliable, high-performance platform that our customers demand."

### RELATED READINGS:

<http://www.ibm.com/linux/aug02/resource>

### NEW LINUX FOCUS AT IGS

The Linux Line talks to Benoit Degreve about the IBM® Global Services move to increase the scope of Linux inside IGS and what he sees for Linux and IGS going forward.

**IBM GLOBAL SERVICES (IGS) HAS A NEWLY CREATED GLOBAL LINUX ORGANIZATION, AND HAS NAMED BENOIT DEGREVE AS GLOBAL LINUX SERVICES EXECUTIVE TO HEAD IT UP. IN THIS INTERVIEW, RALPH MARTINO, IBM VP OF STRATEGY & MARKETING FOR IGS, INTRODUCES DEGREVE, WHO TALKS ABOUT IGS LINUX OFFERINGS AND THE LINUX IMPACT OF THE PRICE-WATERHOUSE COOPERS' CONSULTING (PWCC) ACQUISITION.**

### **LL: Ralph I understand there are some recent developments within IGS to increase the focus on Linux?**

Martino: Yes, we have made organizational changes that will increase the scope of Linux inside IGS. We have created a global Linux organization that spans all of our line of businesses, pulling together the best of Linux across all of Global Services into a single marketing and delivery team. What this offers the customer is a unified group of Linux-focused professionals who can consult with them to address issues from strategy to solutions to infrastructure. I am pleased to introduce Benoit Degreve to lead this initiative on a worldwide basis. Benoit was formerly a member of the Strategy & Marketing team in Europe in charge of Special Projects, and in his new role will head up a new IGS Linux project office to drive IBM Linux sales and IBM Linux marketing initiatives.

### **LL: Thanks, Ralph. Benoit, first of all, welcome.**

Degreve: Thank you very much. I'm very happy to be here.

### **LL: Why the increased focus on Linux right now?**

Degreve: Linux, and the open source philosophy that it embodies, have always been a great idea. That's why IBM has been such a strong supporter of Linux as an alternative to proprietary systems. What's different now is that Linux is really maturing from its grassroots heritage to being a powerful new approach for enterprise systems. When you start to see respected companies as Air New Zealand and Sherwin Williams using Linux for business-critical functions, countries such as Germany, the UK and China making broad Linux policy statements, and leading ISVs such as SAP, J. D Edwards and PeopleSoft investing in Linux, you know it's something to be taken seriously. And IBM Global Services wants to be right there to help, and in doing so to continue to grow as the leader in Linux consulting and services.

LL: Could you give us a brief survey of what IBM Global Services can do to help customers with Linux?

Degreve: I'd be glad to. The value IGS provides Linux is being at the intersection of business and technology—in other words, to work with customers to understand their business challenges, evaluate how a Linux-based approach can help them, then architect and implement the solution. It's really taking Linux beyond the desktop to the back office, plant floor, retail outlet, and so on, with business impacts that are felt all the way to the company's boardroom.

To provide that service and support, IGS has developed several Linux offerings. One of the most straightforward and widely deployed service offerings for IGS is our 800 number Linux support line for Linux, IBM middleware and some selected applications. If there is a question or a problem, an IBM expert is just a call away, worldwide, 24/7. If customers prefer to improve the Linux skills of their in-house staff, IBM Learning Services offers a wide Linux curriculum for both developers and system administrators. Courses are available supporting both LPI and RHCE certifications through both classroom and e-learning courses.

**LL: That sounds great as a starting point for organizations just getting up to speed with Linux. How are we able to help companies or government entities with more sophisticated requirements?**

Degreve: You've hit on a very important point. As I mentioned earlier, what's really stoking the growth of Linux right now is its move into the enterprise. Increasingly, our customers want their solutions provided for them, in full or in part, and we have a wide range of Linux offerings to meet their needs as well. I'll try to touch on a few.

One important practice at IGS is Linux cluster support. High-PerformanceClusters (HPCs) have been called the "poor man's supercomputer" because they leverage commercial workstation technology for compute-intensive applications, but cost much less to deploy than parallel supercomputers. IBM Global Services can help customers determine an optimal configuration and then implement the HPC using xSeries™ nodes, OEM networking components and open source software.

But we don't stop there. For key industries, we are developing specific, leading-edge solutions that extend the cluster technology to provide vertical-specific solutions that address critical business requirements. The petroleum industry is one example that I can tell you about. If you think about the computational requirements of modeling for oil exploration, in seismic simulation, it's really quite mind-boggling. But by combining IBM's inside knowledge of the industry with the power of Linux High-Performance clusters, the result is solutions that can reduce computational time from hours to minutes, and really revolutionize the speed with which companies can complete activities, such as oil trading.

Server consolidation on Linux is another IBM strength, and the problem of sprawling, high-latency PC networks and their associated high maintenance and licensing costs have created strong demand for alternatives.

We can also provide skilled specialists to help customers plan, install, customize, configure and test Linux middleware like DB2®, DB2EEE, WebSphere® Application Server, MQSeries® Client, WebSphere Transcoding Publisher—in fact, we have a variety of middleware enablement services support Linux on either the Intel platform or @server zSeries™ platform. If customers have needs in any of these areas, they should give us a call.

Finally, we are very excited about our new IBM e-business on demand service we call Linux Virtual Services. Instead of buying, installing and administering physical Web, database and application servers, customers can now tap into "virtual servers" on IBM zSeries mainframes secure, e-business hosting centers and pay only for the computing

power, storage, network and management they require. Anyone who has ever gone through this process can appreciate how revolutionary that is.

These are a few of our Linux offerings, but if a customer has any Linux need they'd like to discuss, they should give us a call to see if we can accommodate their needs.

**LL: Could you tell us about some recent Linux customer successes you've had?**

Degreve: It's hard to know where to begin, since there are such a wide range of exciting uses for Linux that we're helping our customer move forward. But I'll mention a few that I think are representative of some of the hot new areas in Linux. In enterprise applications for Customer Relationship Management (CRM), for example, we helped I Viaggi del Ventaglio build a solution that draws from a DB2 Universal Database for Linux data warehouse running on two IBM **@server** xSeries 350 servers. We also recently announced a Linux-based CRM solution for mid-sized banks in alliance with J. D. Edwards.

In the area of clustering, Rigel Pharmaceuticals, which is studying new small-molecule drugs to treat cancer and immunologic and infectious diseases, recently worked with us to implement a pre-built cluster of Linux servers: 16 xSeries 330 servers and one xSeries 340 server running Red Hat Linux. Now, Rigel has an environment that is faster, more robust, scalable and easier to manage.

We also helped the Jet Propulsion Laboratory (JPL) build cost-effective, high-performance computing infrastructure consisting of a preassembled Red Hat Linux V7.2 cluster of 64 xSeries 330 compute nodes for data processing and analysis, two xSeries 330 head nodes and one xSeries 340 management node.

In May we announced we're helping Sherwin Williams design and integrate an in-store network of 9,700 IBM NetVista™ M41 small desktop Linux personal computers for all 2,500-plus stores. All peripherals will be Linux-compatible, which gives them flexible, open architecture that can be easily integrated with sales and inventory applications on Linux workstations throughout the Sherwin-Williams chain. And we helped Lotto.com, an Internet gaming company, consolidate servers on to a single, logically partitioned **@server** pSeries™ 690 server running Linux, which both increased performance and lowered their total cost of ownership.

There are several more we could mention, but these are representative of several key application domains that your readers may recognize. If a customer has a Linux need, whether focused on cost-cutting or a path-breaking competitive innovation, they should contact us to discuss ways we can solve their problems and meet their needs.

**LL: IBM recently announced the proposed acquisition and addition of PricewaterhouseCoopers Consulting to IBM Global Services. What would this mean to IBM Global Services' Linux capabilities?**

Degreve The PwC Consulting acquisition would open up several opportunities for us on

the Linux platform. PwCC would bring consulting expertise and implementation capabilities tailored to markets including financial services, energy, pharmaceuticals and the retail sector, all areas that are discovering new uses for Linux. Combined with their standing as a leader in packages such as SAP, Siebel and PeopleSoft, we think it's a combination that would bring unequalled business benefit and value to our customers.

**LL: What do you see happening in the near future for IBM Global Services and Linux?**

Degreve: There are two critical emerging opportunity areas that we are focusing on: Enterprise and Industry Applications, and On-Demand Services. I've already talked about a number of our enterprise solution successes, so what I'll focus on here is Linux Virtual Services which, as an IBM e-business on demand service, represents the next stage in computing for us. It's an offering in which applications, infrastructure and business processes are all delivered on demand over the network much like a utility. And while we think that e-business on demand represents the long-term computing vision, it's real. It's here today, and customers are benefiting from it already.

Just as you and I can have water and electricity without digging a well or installing a generator, compute, storage and network resources and complete solutions for e-Business are becoming seamlessly available in a "placeless" environment as well. It's beginning to matter less and less that your organizations' computing resources are hosted in-house. In fact, I think the day is coming when managing these information assets in-house will seem inelegant and passe, when compared to the efficiency and flexibility that the utility model offers.

All in all, that's part of the vision IBM has for Grid computing, for Linux and for the self-healing technologies of Project eLiza™. At the end of the day, Grid will make IT resources ubiquitous, Linux promises to provide a common platform, and the self-healing technologies of eLiza will continue to make the system more and more robust. That's what I think the future holds. And as this story continues to unfold, IBM Global Services will be there to help customers understand, integrate, leverage and deploy these technologies for e-Business. That's what we do.

**LL: Thanks for taking the time to talk to us.**

"No, I'm actually amazed at the number of projects with possible business impact in the short run," says Feldman.

**LINUX FOR WORLD-CLASS EVENTS**

The Linux Line talks to Laurie Courage about delivering Web solutions and the key role of Linux.

**Laurie Courage is Director, Internet Strategy and Web Events Worldwide Sponsorship Marketing. She talks about e-Business on Demand and how Linux has become key to events leadership.**

**LL: Laurie, thank you again for taking the time to talk to us about your work. You're in a specialized area of IBM® corporate marketing and work with IBM Global Services to deliver Web solutions to the sports and entertainment organizations we sponsor. Who are your customers, and is there a typical set of requirements that they come to you with?**

Courage: IBM sponsors several world-class sports and entertainment events, ranging from Grand Slam tennis, such as Wimbledon and the US Open, to the Ryder Cup golf tournament and Broadway's Tony Awards. As far as their special requirements go, we face several challenges when we deliver a premier event on the Web. We have to focus on the objectives of the official site itself, objectives ranging from providing scores to fans and enhancing the image of the event, to revenue generation. And by the time the virtual doors open to the Web event itself, we have to be ready for millions of visitors and give a performance that's equal to the quality of the event. In our kind of 24/7 environment, there is no room for downtime and when the traffic peaks, the sites require the delivery of high volumes of rapidly changing information; usually in our case this is scores or results. We have to do it in a user-friendly, resource-efficient way, but be able to scale resources on demand. We call that e-Business on Demand™.

**LL: Can you tell us more about the e-Business on Demand content-serving capacity that grew out of your Web events infrastructure?**

Courage: I'd be happy to. The US Open is actually going to be our 53rd Web event. Over the past seven years we have continually reinvented our infrastructure so we can support the growing traffic needs and functionality requirements of our sites. So, as we've gone through these enhancements, working with IBM Research and IGS, we've developed a caching process to deliver a high-performance Web environment to millions of fans worldwide. We've been piloting this capability all year, and IBM Global Services has just introduced it commercially as a new e-Business on Demand service called IBM Managed Hosting Content Serving.

Using IBM's Content Serving solution, we have been able to reduce the cost of delivering this infrastructure, while at the same time gain access to the scalable high-performance computing that we needed for our traffic peaks. For us, it's meant off-loading a large portion of our Web serving infrastructure out to the network. This translates into a better fan experience. Fans get a better response time, but the caching process has also reduced our transaction costs and allowed us to keep up with the popularity of these sites. So piloting this type of innovation has really worked to our advantage.

**LL: A key piece of technology that you've been using for these live events, I understand, is something called "Gryphon." It's subsequently become part of MQSeries®. Can you talk a little bit about what Gryphon is and how that technology came about?**

Courage: We've been delivering real-time data through our Web event sites for years. In the beginning, we published information and delivered it to the desktop on a download-

able Java applet that we created called the IBM Real-time Scoreboard. But as the real-time requirements and our traffic escalated, we needed to find a technology that would let us deliver the data more efficiently, while still meeting the needs of the fans. So last year, we began to test a new push technology, developed by IBM Research and code-named Gryphon.

A true test of that code came last year during a rain delay at Wimbledon. The Monday after Wimbledon was supposed to have ended, we found ourselves unexpectedly servicing three major matches. It produced a spike of 230,000 simultaneous scoreboards, and many of those were Gryphon-enabled, but we managed the load without incident.

This year, we piloted the Gryphon solution more fully using the Linux operating system at the French Open and Wimbledon, and by carefully benchmarking the publish and subscribe process, we produced a solution that is now publishing much of our scoring information. The Gryphon code worked so well that it has been integrated into a new offering, IBM WebSphere® MQ Event Broker, and later this year, IBM expects to make MQ Event Broker available to customers on Linux. Because of the challenging, real-world environment of our Web events used to test this code, our customers will have the advantage of knowing that the technology has been proven on a world stage and is ready to go to work in their IT environments.

**LL: Are there other application areas besides sporting events where this technology could be valuable to customers?**

Courage: In our e-Business on Demand environment, peak demand sometimes shows up when we didn't plan for it to, and that's very similar to what happens to many customers. For example, the retail industry sees peaks in demand in the fourth quarter during the holiday shopping period. Or customers may have an infrastructure that manages their loads fine under normal conditions, but they want to do sales promotions that will create a spike.

We've also found, though, that in many cases there are unforeseeable reasons that traffic will wind up on your site. A weather site may experience a surge in traffic during severe weather, or a company may have a public relations success and suddenly everyone wants to learn more about them.

We've also found that the real-time data aspect of MQ Event Broker is something that financial services organizations are very interested in, because they're trying to stay as close as possible to their data to capture fluctuations in the financial markets, and they want to push rapidly changing information out to shareholders, stakeholders, traders or business partners.

**LL: I understand that you're migrating the underlying Web Events infrastructure to Linux. Can you talk a little bit about this and tell us why Linux is the choice you're making here?**

Courage: As I mentioned before, innovation is very important to us and we're constantly

looking for ways to improve our environment to support high performance and stability, while also keeping our costs contained and allowing us the flexibility to grow. When we evaluated Linux last year, we saw potential benefits, and since it's been implemented we've realized many of those benefits.

First of all, it's helped us contain the labor costs associated with this growth. From a staffing perspective, many people in the industry and in universities are being trained in Linux, and going forward it will become easier to find the skills that we need to continue our development in this very important environment.

From an efficiency perspective, we are focused on the cost of our development. Linux has really afforded us the chance to develop more easily, to port applications across multiple platforms, to gain access to many different types of application development tools and code—and often these tools are free.

Since Linux is freely available, our developers have sometimes done initial development on a laptop and then moved the code to the production environment with relative ease. We've also been able to achieve some tremendous price/performance benefits. By tuning our environment to take full advantage of Linux's capabilities on xSeries™ servers, we were able to realize 300% growth vs. similarly-sized servers resulting in absorption of 100% year-to-year Web traffic growth for a reduced investment. I don't have to tell you how happy it makes management if you can increase capacity 100% for the same cost when budgets are under pressure.

**LL: Is there anything else that you would like to say to our audience about e-Business on Demand and Linux?**

Courage: When we began our journey with Linux we felt that it was a nice experiment. But the performance and value we found surprised us, and today Linux is critical to meeting our e-Business on Demand objectives. Our major Web sports events have proven and continue to prove the capabilities of our e-Business on Demand environment, and by including Linux as our platform and building on that open platform layer, we've been able to achieve remarkable benefits in development, deployment, performance, scalability and value. In sum, Linux is really helping us to grow our business here at IBM, and we want to share these benefits with our customers.

**LL: Thanks for taking the time to talk to us.**

**GERMAN GOVERNMENT, OPEN SOURCE AND "INITIATIVE D21"**

The Linux Line talks to Erwin Staudt about the German Linux deal and about a public-private IT partnership spreading through Europe and Russia.

**ERWIN STAUDT IS GENERAL MANAGER OF IBM® GERMANY. RECENTLY IBM SIGNED AN AGREEMENT WITH THE GERMAN GOVERNMENT PROVIDING PUBLIC ORGANIZATIONS WITH LINUX HARDWARE, SOFTWARE, AND OTHER SUPPORT.**

**LL: IBM has recently announced that it will provide the German government IBM computer systems based on Linux. Otto Schily, Germany's Interior Minister, has been quoted as saying that the move would help cut costs and improve security in the nation's computer network. Could you tell us more about the agreement, and why the German government thought it was worthwhile?**

H. Staudt: Otto Schily, the German Minister of the Interior, said at our press conference in Berlin that the reason for the agreement was not only the cost savings, though the cost savings of Linux are there. The avoidance of computer "monoculture" was a big issue as well. And the position of the German administration in upcoming negotiations will be much stronger if Germany plays the "Linux card" to remove its dependence on only one operating system and one software vendor.

Schily also wanted to improve network security. He figured out that there are many viruses which can get into the networks via just one software provider. And he knows that Linux is a very secure and reliable piece of software. So in short, the goals are to stop the dependence on closed standards, to build a very reliable, secure and cheap platform on which public services could be offered in the cities and the counties all around Germany, and to improve the negotiating position of the German government with software vendors.

To implement this agreement, we are providing common reference implementations of the Linux platform, patterns of deployment if you will, so Germans can build on configurations that we've established work well, instead of forcing each of the various locales to re-invent the wheel.

The contract itself consists of four elements. We both agreed that we want to promote Linux as a platform. IBM agreed to provide special terms for both Linux software and hardware components. And perhaps most significantly, we are establishing a portal where any public organization in Germany can get information and their questions answered about Linux. IBM is responsible for running this portal and for providing its content. We also will be answering questions about how to port applications, or inter-operate with legacy applications they want to keep.

In many ways, though, this was a political act. The Minister of the Interior takes a dim view of monopolies. He's a Social Democrat, and belongs to the same party as the German Chancellor, Gerhard Schröder. But he was formerly a member of the more liberal Green Party. He has a strong feeling for openness, for justice and equality, and for giving freedom and competition a chance. And that comes from the gut.

**LL: I understand this agreement didn't quite come out of thin air. You earlier initiated a vendor neutral program called "Initiative D21" to move the German industrial economy to an information economy. Could you tell more about Initiative D21, and how it came about?**

H. Staudt: Yes, it started when I read some statistics that indicated that Germany is far behind all the major Western nations in the adoption of the Internet. 70% of the schools in the United States had access to the Internet. In Canada it was 85%, in Finland 100%, but in Germany in 1999 it was only 20%. It wasn't difficult to see that this was a problem. So a letter was sent out to the largest 200 companies in Germany, many of whom also are the largest IT customers, to invite them to help us solve it.

We then founded Initiative D21, a public-private partnership with the objective of accelerating the transformation of Germany from an industrial society to an information society, and to promote economic growth and employment. It is key, we believe, that for this transformation to take place, it must embrace both rich and poor, men and women, in fact all socioeconomic groups.

I was elected the first Chairman of the Initiative. Then we went to Chancellor Schröder, and asked him to be Chairman of our Advisory Board. He agreed, and the former President of the Republic, Roman Herzog, agreed to become our Honorary Chairman. That was two years ago, and we just held our second annual conference in Leipzig. The Minister of the Interior was the keynote speaker and the conference drew more than nine hundred people. There were representatives from DaimlerChrysler, Allianz Insurance, Siemens Company, BMW Automotive Company, and also companies like AOL and Hewlett Packard in Germany plus a number of partners from the political side: the ministries of economy, education, and Internet spokespersons of the political parties in the German Bundestag. In fact, Initiative D21 is the largest private-public partnership in Germany today with more than 300 members.

But it is important to understand that we are not just another industry association trying to sell more PCs. Rather, we are the first public-private partnership which brings the customer and supplier together for the renovation of a society. And we're seeing progress. In 1999, 13 million Germans were online. Today we have 27 million Internet users. And even more importantly, all German schools now have access to the Web.

### **LL: Could you talk more about the e-Government aspect of D21?**

H. Staudt: Yes of course. Two years ago, at our annual conference, Chancellor Schröder introduced several task forces to establish an e-Government in Germany. They were to focus on:

- The future of information society, which focuses on digital opportunities, digital economy, consumer-protection, and broadband technology
- Government as a participant in the information society, health services, and involvement of the public in political processes
- E-Learning and enabling schools and universities as well as teachers and pupils in the field of IT
- Women's issues, including professional opportunities and telework; and
- "Security on the Web," which focuses on the development of a "CERT.de," digital signatures and the standardization of smart cards

Chancellor Schröder announced that these projects would be implemented by 2005 and he's been actively sharing this German innovation with the rest of the world. Just four weeks after our D21 conference in Germany, the G8 Summit was convened and one of the decisions made was to pursue e-Government, and to also include less developed countries.

When Russian President Vladimir Putin recently came to Berlin to visit Schröder, out of the blue he said, "Schröder, I heard from my people that you have an IT initiative called D21 to bring more women and other minorities into the IT profession, and to create in Germany an information society. Why can't we do the same in Russia?"

So we got a call from Schröder and hurried off to a reception where Putin was speaking. Now we're implementing D21 in Russia. My counterpart in Russia is the Russian Minister for Technology, and he sent a ten-person delegation from Russia to the D21 conference, so we know they are very serious about this. Other European countries who have interests in Russia are helping with the Russian initiative as well.

We have similar initiatives under way in Austria and in Switzerland. So this is beginning to mushroom, and it's becoming a pan-Eurasian initiative, not just a German one. It's very exciting to see the government sector market beginning to develop in this way, at a time when some other sectors are sluggish.

**LL: What about the other side of this equation? What sort of success has Linux had in Germany in the private sector? How is it regarded there?**

H. Staudt: The reasons customers are using Linux in the German private sector in many ways mirror the concerns of the German Interior Ministry. They want to break out of the trap of being dependent on just one software vendor. Microsoft® is quite rigid, and they use their market position to play hardball with their customers. Customers and consumers understand that Linux is a very stable and very highly developed platform. The intrinsic security of Linux is also a factor. And of course, Linux itself is open and free.

**LL: Is there anything that you'd like to add about the future role of Linux in Germany?**

H. Staudt: I would just like to add this one point. I remember, and perhaps many of your readers remember, when Sam Palmisano stated that he wanted all of IBM's servers and software to be ready for Linux, and we decided to spend \$1 billion to make it happen. My point is this: The billion was not spent only for IBM; this was a billion we spent for the free market. Palmisano saw the importance of that, he executed, and now we all are harvesting the fruits of his vision.

**LL: Thank you very much for taking the time to talk to us.**

### RELATED READINGS:

<http://www.ibm.com/linux/aug02/resource>

### WEBCAST REPLAY: CAMPAIGN DESIGNER UPDATE UNTIL NOV. 10

Need a fast way to go to market with your solutions? Listen to the replay of the Aug. 13 Campaign Designer Webcast. Learn about exciting new templates for Mid-Market Solutions which now include Linux content, StartNow, @server, e-Business Infrastructure, and PCD. Get pointers on creating your multi-touch game plan and building your marketing skills with courseware and tools from PartnerWorld® University.

Specific Agenda items include:

- PartnerWorld Co-Marketing and Campaign Designer
- New Campaign Designer Templates
- The Right Game Plan
- Next Steps
- Q & A

### NEW TEMPLATE FOR SMB MARKET SOLUTIONS

A new Campaign Designer template has been created focused on solutions for the SMB marketplace that run on Linux. This template will offer a local demand-generation program for both ISV Solution offerings and Infrastructure Solution offerings, to be available in September.

### NEW BENEFITS FOR LINUX LEADERS

Linux Leaders is a designation for our top contributing Business Partners with Linux skills. The first benefit is an Extended Mentoring offering. This provides mentoring technical assistance of up to 24 hours on the Business Partner's first implementation of our recently announced IBM @server Integrated Platform for e-business solutions. In addition, we have gathered information from a large number of companies regarding their current and planned deployment of Linux. As appropriate, we plan to pass leads to our Business Partner Leaders for Linux based on skills matched to the opportunity.

### HELP FOR PORTING LINUX APPLICATIONS

Are you or do you know of an Independent Software Vendor (ISV) or Solution Developer who is interested in porting or enabling a Linux application to IBM's @server platforms? If so, then please view the IBM Linux solution developer community homepage. You'll see links to a number of platforms with information specific to the iSeries™, pSeries™, xSeries™, and zSeries™ Linux porting programs. You'll also find a link to the continually updated "Roadmap for Linux @server Enablements and Marketing" document, and quotes from ISVs on the ease of porting their products to the @server platform.

### EXPAND YOUR CAREER IN E-BUSINESS: BECOME AN IBM CERTIFIED FOR E-BUSINESS SOLUTION TECHNOLOGIST

An IBM Certified for e-business Solution Technologist is a technical professional respon-

sible for implementing complex e-business solutions. To earn this certification, you should demonstrate skills in understanding and articulating the technical requirements of your customer projects, as well as the broader issues surrounding your customers' e-business needs. NOTE: To qualify to take this certification test #812 you must already hold an IBM technical certification or industry certification such as Linux Professional Certification or Java™ cross-vendor certification.

### **IBM & CADENCE DESIGN SYSTEMS TO CO-MARKET SOLUTIONS**

IBM has signed a deal with Cadence Design Systems to co-market Linux solutions in the Electronic Design Automation (EDA) market. Cadence is a leading EDA vendor whose software tools are used to produce integrated circuits, printed circuit boards and electronic systems. IBM will cooperate with the company to bring these tools to IBM's Intel-based Linux platforms. IBM also provides Linux service and support for these platforms. The deal is part of the increasingly rapid spread of Linux to the EDA market. The market is adopting this operating system because of its compelling price-performance value proposition.

### **VERITAS SOFTWARE TO DELIVER SOLUTIONS ON IBM INTEL-BASED LINUX SERVERS**

VERITAS Software Corp. has announced plans to deliver integrated and tested storage solutions on IBM's **@server** xSeries™ Linux platform. VERITAS Software's storage virtualization, data protection and high availability software are now certified by IBM to run on IBM's **@server** xSeries platform. The integrated solution brings high scalability, simplified data management and faster backup and restore capabilities to the enterprise Linux environment, while leveraging the cost-efficiency of the platform.

### **IBM & VMWARE SIMPLIFY CONSOLIDATION OF INTEL PROCESSOR-BASED SERVERS**

IBM and VMware are expanding their relationship. The move is to make it easier for customers to reduce cost and complexity by consolidating workloads onto IBM **@server** Intel processor-based systems. Building on a joint development agreement announced earlier this year, the two companies have agreed to address customer demands for cost-effective, quick-to-deploy server consolidation solutions.

Under the agreement, IBM will offer VMware ESX Server virtual machine software with dynamic logical partitioning with select **@server** systems. IBM will offer worldwide support for VMware ESX Server software and Microsoft(R) Windows(R) and Linux(R) operating systems running within VMware ESX Server virtual machines. This support will be available as a special bid under IBM Global Services' SupportLine for Microsoft Windows and SupportLine for Linux. In turn, customers receive single, integrated support services for **@server** systems, VMware ESX Server software and operating systems.

### RELATED READINGS:

<http://www.ibm.com/linux/aug02/resource>

#### **CALDERA NAMES NEW CEO AND PRESIDENT**

Caldera International, Inc. has named Darl McBride as the new CEO and President of the company. The announcement of the change-in-command came on June 27. McBride brings more than 18 years of executive management and leadership experience to Caldera. "Darl McBride is a creative thinker who thrives working in high-growth environments," says Dr. Stephen R. Covey, cofounder and co-chairman of FranklinCovey Company. "I'm confident that Caldera customers, partners, developers, employees, and all of the company stakeholders will appreciate and benefit from the leadership that McBride brings to the company."

#### **CALDERA OFFERS TUTORIAL ON SAMBA AS DOMAIN CONTROLLER**

Need a quick guide to set Samba up as your domain controller? Look no further! Caldera International provides an easy tutorial on setting up Samba and downloading version 2.2.4 for OpenLinux and Open UNIX.

#### **SUSE LINUX GROUPWARE SERVER LEVERAGES LOTUS®**

SuSE Linux, international Open Source technology leader and solutions provider, has announced the release of an updated version of the SuSE Linux Groupware Server. The Lotus connection is noteworthy, as the new release interweaves the Linux operating system with the newly released Lotus Application Server 5.0.10. This makes the SuSE Linux Groupware Server a powerful Lotus solution for Intel 32-bit processors.

#### **SUSE LINUX PRO-OFFICE CD WITH STAROFFICE 6 AVAILABLE**

SuSE Linux users can equip their home computers with state-of-the-art Linux desktop technology. SuSE Linux has announced the release of Pro-Office CD. The Pro-Office CD features the latest version of Sun Microsystems' StarOffice, the newest edition of KDE 3.0.1, as well as important patches for the SuSE Linux 8.0 operating system..

#### **SUSE UPDATES LINUX ENTERPRISE SERVER 7**

The latest technology for SuSE Linux Enterprise Server 7 is now available as FTP download or on CD. Within the scope of system maintenance of SuSE Linux Enterprise Server, SuSE provides new features for the 32-bit architecture of Intel, e.g. optimized kernel 2.4.18, drivers for the latest RAID, SCSI, and network devices and Samba 2.2.4 with a central print spooling system for setting up a file and print server for Windows® clients.

#### **ASK SHADOWMAN: RED HAT LINUX APPLICATIONS**

He's smart. He's mysterious. He has only one name like Prince or Michelangelo. And every month Shadowman answers the toughest technical questions anyone ever dared ask a two-dimensional logo. This month's mission: To answer your questions about Red Hat Linux security and applications.

**RELATED READINGS:**

[http://www.ibm.com/  
linux/aug02/resource](http://www.ibm.com/linux/aug02/resource)

**LAWSON PRODUCTS TURNS TO NEXT LEVEL OF E-BUSINESS**

Lawson Products, an international production components distributor in Des Plains, Illinois, needed to replace its homegrown Windows NT-based Web site with a robust, reliable e-commerce site that would provide its business partners constant browser-based access to its 400,000-item catalog. IBM WebSphere® Commerce Suite for OS/390 provided the Java functionality and Java-based programming tools that Lawson required. After successfully beta-testing the solution in a Linux environment, Lawson implemented WebSphere Commerce Suite Pro Edition with SuSE Linux running on IBM zSeries™ 900 and S/390® V5.1. Catalogued parts information will reside in DB2® Universal Database™ for OS/390® and z/OS™V7. Besides providing required functionality and availability, the solution's flexibility and scalability will support additional e-stores for future business initiatives as well as the threefold growth in usage expected by year-end 2002.

## Developments

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### RELATED READINGS:

<http://www.ibm.com/linux/aug02/resource>

### IBM® INTRODUCES SERVER TO HELP SIMPLIFY DATACENTER

Available with Linux, the new rack-based IBM **@server** x345 offers a new server inter-connect technology designed to dramatically reduce the proliferation of cables that add complexity and cost to high-density server environments. IBM's Advanced Connectivity Technology (ACT) helps lower costs by delivering a powerful way to manage servers as well as providing an easy-to-use, cost effective method of connecting rack-mounted servers. IBM ACT also saves critical rack space in high-density environments by consuming up to 90 percent less rack space than traditional KVM (keyboard, video, mouse) switching solutions. The new technology, supported by all xSeries™ servers, will be important to customers making the transition to smaller rack-dense server environments.

The IBM **@server** x345 delivers Intel Xeon performance and is the first rack-mounted 2U Intel processor based server to have six Ultra 320 hotswap hard drive bays and five PCI expansion slots.

"IBM is taking the lead to help our customers deploy cost-effective and simplified rack dense systems by creating the ACT server connectivity technology and a very dense two-way server," says James Gargan, vice president, IBM **@server** xSeries. "In the past five years, the amount of cabling in the average datacenter has grown significantly as rackable servers have gotten smaller, allowing customers to pack more systems into their data centers. We are able to help solve rack ecosystem deployment problems with our new x345 and ACT technology."

### IBM ANNOUNCES SUPPORT FOR INTEL ITANIUM 2 PROCESSOR

IBM has announced support of Intel's new Itanium 2 processor and revealed plans to later this year introduce an IBM xSeries system with Itanium 2 processors. IBM software such as WebSphere and DB2 also will support the Itanium 2 processor. The 64-bit Itanium 2 processor targets commercial and technical applications that include business intelligence, databases, enterprise resource planning, supply chain management and high-performance computing.

### SPEED START YOUR LINUX APPLICATIONS

Get the most out of Linux by understanding its past and where it is headed. Discover the value of the IBM Software Strategy for e-business middleware on Linux. A no-charge, two-day workshop puts you on the right path if you are a software developer or IT decision makers wanting to develop on the Linux operating system.

### REDBOOKS™ ON LINUX ON ZSERIES™ AND S/390®

Linux on IBM zSeries and S/390: High Availability for z/VM and Linux (June 21, 2002)  
Linux on IBM zSeries and S/390: Securing Linux for zSeries with a Central z/OS LDAP Server (RACF) (June, 21, 2002)

### HOT LINUX INFO IN FREE AUGUST 2002 DEVELOPERWORKS™ JOURNAL

## Developments

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Register today to have the August 2002 issue of the developerWorks journal mailed to you for free. You will find articles to help you develop and navigate the open Linux frontier, from porting your MFC apps to Linux to mastering Linux debugging techniques. In addition, you will learn new strategies for developing with hot technologies like wireless, XML, and Java™, as well as with products like WebSphere and DB2. Check it out at developerWorks!

### RELATED READINGS:

<http://www.ibm.com/linux/aug02/resource>

### **IBM® INTRODUCES DIRECTORY SOFTWARE**

Building on the directory integration momentum of its recent acquisition of Metamerge, IBM has announced new directory software. The offering provides enterprises with a software infrastructure for identifying enterprise resources, controlling access to networked systems and securely deploying Web services across leading operating systems, including Linux, for Intel and **@server** zSeries™.

### **IBM DEBUTS STORAGE SERVER WITH LINUX SUPPORT**

IBM recently introduced a next-generation enterprise storage server that leads the industry in database and transaction processing performance while delivering self-managing and self-healing technology features from IBM's Project eLiza™. This is the latest in the Storage System Group's commitment to Linux. The ESS 800 and 800 Turbo come with an extended support for Linux distributions delivering a robust, reliable, and economical environment for enterprise-class commercial Linux workloads. The ESS Model 800 combined with Linux on a variety of supported server platforms provide a superior choice for storage consolidation and lowering IT total cost of ownership.

### **SPECIAL XSERIES™ OFFER FOR U.S. SMALL BUSINESS OWNERS**

You can get a total IBM technology solution (up to \$100,000) for your business and make no lease payments until 2003. You can finance 100% of the technology solution you need now. Eligible products include ThinkPad® notebooks, NetVista™ desktops, IntelliStation® workstations, xSeries systems, accessories, software and services. This offer expires; you must order systems by September 30 and install by October 15. The offer is available to small business customers with fewer than 100 employees.

### **STAY UP-TO-DATE ON IBM XSERIES AND LINUX**

There's always a place to find out the latest developments with IBM **@server** xSeries and Linux. Just go to our Web site to find information on all aspects of Linux on the xSeries.

### **OWN AN @server XSERIES SERVER AND WANT TO UPGRADE?**

If you already own an xSeries server and wish to refresh your system with the latest technology, information about upgrades is just a click away. Learn what you need to know about accessories, upgrades, services and support.

### **NOKIA, IBM JOIN ON CONTENT DELIVERY FOR MOBILE DEVICES**

Nokia and IBM announced an agreement on digital content delivery for mobile applications and services. The companies will provide wireless operators and service providers with a complete solution. The Nokia Delivery Server is to be ported and made available for use on IBM Linux-based xSeries. IBM will market Nokia's delivery server software for mobile content downloading. The companies also agreed to collaborate on secure content delivery solutions, including digital rights management, according to industry-wide open standards and specifications.

### **INSTITUTE FOR SYSTEMS BIOLOGY TURNS TO IBM**

The Institute for Systems Biology (ISB), a world renowned non-profit research institute, has selected IBM to provide its infrastructure technology. ISB will use IBM servers, storage and data integration products to support its research on protein-protein interactions. The goal is to better understand and predict diseases, and identify potential preventions and treatments. Through the agreement IBM and ISB will also explore research collaborations in systems biology. ISB is a leader in this emerging field, which uses computer technology to model not just the functions of individual genes and proteins, but their complex interactions within a cell, tissue, organ or whole organism.

### **4SC CHOOSES IBM LINUX CLUSTER FOR DRUG DISCOVERY**

The biotechnology company 4SC AG has decided to use IBM Linux Cluster technology for drug discovery under a collaboration that involves immediate installation of 256 double-processor **@servers** from the xSeries 330 and one xSeries 342. This solution will enable the Munich-based company to produce computer simulations of drug targets and lead substances for the development of new drugs. Servers will run 4SC's proprietary Virtual High Throughput Screening technology (vHTS), which calculates the biological activities of millions of molecules on the basis of protein structures, homology modeling or the biological activity of existing compounds. This brings substantial time and cost savings for advancements of drug candidates to the development phase. The IBM **@servers** are equipped with self-diagnosis and self-healing technology from IBM's eLiza™ project and thereby capable of self reporting and repairing their own system errors, avoiding downtime.

## In the loop: Keeping current with Linux events

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### RELATED READINGS:

<http://www.ibm.com/linux/aug02/resource>

### **AUGUST 12 -AUGUST 15, SAN FRANCISCO: LINUXWORLD CONFERENCE & EXPO**

LinuxWorld Conference & Expo was held at the Moscone convention center with IBM® as a Platinum Sponsor for the fourth year in a row. The event was well-attended, and those who could not be in San Francisco were able to follow activities via hourly updates provided by IBM Linux Marketing on IBM's LinuxWorld Website.

The keynote by Doug Elix, IBM Senior Vice President and Group Executive, IBM Global Services, on "Open Technology and the Power of IT to Transform Business," was well received.

IBM had two booths in order to focus both on customers and the Linux development community. IBM's main booth included IBM middleware, IBM @server and services demonstrations, the IBM Intelligent Vending Machine demonstration, as well as an Application Showcase featuring Mainline, Trustix, SteelEye, Key Information Systems, Mapics, Linux Care, Sapient, eOneGroup and Selectica. The second booth, called the "Developer Habitat," featured test-drive stations, Linux Technology Center and Business Partner chats as well The IBM alphaWorks® Robocode Rumble Championship.

IBM Customer Day was held on August 14. This was hosted by Wirt Cook, Vice President, Americas Sales West, IBM. Steve Solazzo, General Manager, Linux, IBM, presented "Gaining a Competitive Edge with Linux Applications" and Dan Powers, Vice President, Strategy and Business Development, Grid Computing, IBM, presented "Next Generation Computing." IBM had breakout sessions in the afternoon featuring Linux solutions for Financial Services, Government, Healthcare and Academia, Electronic Design Automation for the Industrial Sector and Small and Medium Business.

IBM's fourth-quarter Linux Banner Event will be LinuxWorld Conference & Expo in Frankfurt, on October 29-31.

### **AUG. 18-23, SAN FRANCISCO: JOIN ENTERPRISE-CLASS IBM USERS FOR SHARE**

This user-run conference features 900+ hours of technical education. A special program provides z/VM™ and Linux on zSeries™ topics including hands-on-labs such as Linux 101 and Linux on S/390® installation, technical presentations, user experiences, and networking opportunities. You will find a mix of introductory sessions and advanced topics from which to choose. For more information: 1-888-574-2735 or <http://www.share.org/sanfran>

### LinuxWorld China: IBM To Deliver Keynotes and Presentations

Aug. 27-28	Beijing
Sept. 3	Guangzhou
Sept. 5	Shanghai

At LinuxWorld China, IBM plans keynote speeches in each of the three cities, as well as

## In the loop: Keeping current with Linux events

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technical presentations to focus on **@server** performance on Linux and IBM middle-ware support on Linux.

August 29-30 The Great Wall Sheraton Hotel, Beijing  
Keynote - Mr. DC Chien, ESG Executive of IBM AP

September 3 Hotel Equatorial Shanghai, Guangzhou  
Keynote - Mr. Fan Yu, Executive of EBO, IBM GCG

September 5 China Hotel by Marriott, Shanghai  
Keynote - Mr. Shintaroh Nezuka, GM of Linux in AP

October 7 -10 Miami Beach: z/VM, VSE and Linux on IBM zSeries Technical Conference

z/VM, VSE and Linux on IBM zSeries Technical Conference is being held at the Fontainebleau Hilton Resort in Miami Beach, Florida. Join us for three and one-half information-packed days. This conference is being held at the same time and location as the "z/OS and OS/390 Expo for IBM zSeries Conference". The two conferences will share an EXPO area, meals, some common tracks and an evening event. There are separate enrollment procedures and prices for each conference.

### **IBM OFFERS LPI EXAM**

In conjunction with the Linux Professional Institute (LPI), IBM will offer Linux certification exam LPI-101 (a value of \$100) at no charge for all IBM PartnerWorld® members, as well as for developers who already have an IBM Professional certification.

Also, eight preparation tutorials for the LPI certification 101 and 102 exams are available at the developerWorks™ Web site. In order to register, candidates must be listed in the IBM PartnerWorld database or bring proof of IBM Professional Certification, such as a copy of your certificate or the certification business card.

Oct. 14-18, Dallas, Texas: IBM **@server** pSeries™ (RS/6000®) and Linux Technical University

Register on-line today! Network with industry experts at a one-of-a-kind event. Here is what we are currently offering at this technical university:

- 1 Linux 2002: Ascending into the Mainstream
- 2 Red Hat Linux System Administration
- 3 Installing Red Hat Linux
- 4 Linux Firewalling with IP Tables
- 5 Deploying Network Intrusion Detection Systems on Linux
- 6 Linux Clustering
- 7 Setting up Linux-based routers and firewalls
- 8 Open Source High-Availability with Heartbeat and DRBD

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- 9 Basic Perl Scripting
- 10 System Security - Hardening Linux against Network attacks
- 11 AFS on Linux
- 12 System Security - Hardening Linux for Multi-User Use
- 13 Linux in the Enterprise
- 14 Recompiling Your Red Hat Linux Kernel
- 15 Rescue Procedures for Linux
- 16 Simplifying Workstation Administration using KickStart and EtherBoot Software Management Tools
- 17 Linux on the zSeries- an overview
- 18 Journalized File System for Linux
- 19 Linux and Open Standards
- 20 Intermediate Perl Scripting
- 21 Linux for UNIX® Professionals
- 22 AIX-Linux Affinity and Linux for pSeries

### **"CHANGING THE GAME WITH LINUX" REPLAY AVAILABLE**

A replay of the July 18 tele-seminar is now available. To hear the session "Changing the Game with Linux" led by Steve Solazzo, general manager, IBM Linux.

If you prefer, an audio replay is available at 1-888-203-1112 or 1-719-457-0820, with the reference event code 494039.

### RELATED READINGS:

<http://www.ibm.com/linux/aug02/resource>

### IBM® LEARNING SERVICES FOR ENTERPRISE LINUX TRAINING

IBM Learning Services is the largest enterprise Linux training company in the world. The Linux curriculum, with over 20 courses, is taught in more than 20 countries around the world in five languages. Our delivery includes traditional classroom instruction with hands-on lab exercises, Web-delivered instruction with hands-on lab exercises and in-depth technical conferences.

We have roadmaps of recommended courses to help you:

- Learn Linux basics
- Prepare for Linux certification
- Prepare to become a Red Hat Certified Engineer
- Administer Linux in a networked environment
- Build Linux clusters
- Program in Linux
- Install Linux on S/390® or zSeries™
- Install and manage Linux on iSeries™

Our Linux certification courses will help candidates prepare for the LPI, Sair and Comptia Linux+ certification exams. We also offer Red Hat courses to prepare for the Red Hat Certified Engineer exam. IBM Learning Services Linux courses meet the needs of first-time Linux users, highly advanced Linux system administrators, and Linux programmers.

### NEW DEMO ON E-LEARNING LINUX

Experience the Linux e-Learning environment at your own desk. Take 10 minutes to go through this demonstration to see how you can train in your own office on Linux, experience hands-on Linux Labs on a remote Linux server and learn Linux Basics and Fundamentals at your own time and pace. With travel restrictions and not being able to leave work, many people look to Internet training to address their skill needs.

IBM is announcing this innovative new e-learning course, Linux Basics and Installation Taught via the Internet (QLXA2), and soon will offer Linux System Administration taught via the Internet (QLXA3) and Linux TCP/IP Administration taught via the Internet(QLXA7). These self-paced e-learning courses are 30 hours each. They teach Linux skills through reading assignments, multimedia presentations, interactive real-time chats with an instructor, and quizzes with instructor feedback.

### LIVING IN EMACS

Inscrutable Emacs? No more! This tutorial will get you up the learning curve and working quickly, with complete coverage of the popular Emacs text editor. From e-mail, writing Web pages, and coding, to games, there's something for everyone.

### APPLICATION CONFIGURATION WITH PERL, PART 2

Hand-coded, file-based configurations can break down with alarming ease and regularity.

ty. In this second installation on application configuration with Perl, programmer Teodor Zlatanov focuses on the advanced features of CPAN's AppConfig, including validation, autoaction, and mutually exclusive options.

### **ASSEMBLY FOR LINUX ON THE POWERPC**

IBM software developer Hollis Blanchard introduces the basics of assembly programming for the PowerPC, including when to do it and when not to. His common-sense approach to a tricky subject will give you a good grounding in what many consider to be an esoteric skill.

### **MORE LINUX COURSES AHEAD**

More Linux courses are coming, including Installing, Tailoring and Servicing z/VM™ for Linux, Advanced Linux and Advanced Solutions for Linux on zSeries™.

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