PUND-IT, Inc
Investigate - Interpret - Inform

Weekly Review

Volume 8, Issue 26
June 27, 2012

In this issue:

Pund-IT, Inc.
Hayward, CA
U.S.A. 94541

Contact:
Office: 510-383-6767
Mobile: 510-909-0750
charles@pund-it.com
www.pund-it.com

IBM's Flex System Manager—A Multi-Dimensional Solution for Data Center Complexity

By Charles King, Pund-IT, Inc.

Ever since the "good old (and I mean very old) days" when data center staff dressed in white lab coats, most keyboards were attached to typewriters and computing usually referred to mainframe systems, businesses have struggled with and technology vendors have promoted solutions to ever-increasing IT complexity. But while a variety of factors contribute to complexity, one of the greatest is the tendency among IT shops to deal with multiple vendors and buy various platforms designed for particular workloads and business processes.

In theory, this approach to IT should yield positive results and in the short term it usually does. Critical applications and data get the support they need, executives are generally content (or at least as content as their inclinations allow), IT managers spend less time sweating and being screamed at, and data center staff have enough time to get their work done and occasionally have a bit of fun. In technological terms, this describes a landscape of milk and honey-like contentment.

But what happens over time is hardly so pretty a picture. What often begins as an exercise in CAPEX responsibility (choosing the lowest bids to meet short term budget requirements) can result in sometimes brutal OPEX pain. When IT staff must be certified and keep up with maintenance and management processes on numerous vendors' platforms, overall efficiency declines, following a workable system update schedule become more difficult, data and business processes risk becoming increasingly "siloed" and isolated, and communications between IT teams declines, thus heightening the likelihood that SLAs will be broken.

More critically, once an organization strolls down this primrose path, changing or reversing course becomes virtually impossible without painfully thorny and expensive 'rip and replace' initiatives. But most important of all, when intriguing and potentially valuable new technology solutions and strategies do come along (such as recent trends in cloud computing), companies locked into a miasma of IT complexity find it difficult, at best, to take full advantage of those developments.

Is there a way out of this mess? Sure. Some third party software vendors offer management solutions that work across multiple platforms. That can be a reasonably successful approach but tends to be costly (since these products are meant to replace solutions included with servers, storage and networking hardware). In addition, cross-platform management products often provide fewer features and less insight than do vendors' own solutions.

IBM's Flex System Manager

Is there a middle ground? Actually, yes. In the recent launch of its new PureSystems solutions, IBM also introduced the Flex System Manager platform. In a recent call with industry

analysts, company executives detailed some features that make Flex System Manager an especially intriguing solution to many of the problems associated with IT complexity.

Keep in mind that Flex System Manager is designed to complement IBM's new PureSystems solutions which mean to fill a gap the company believes exists between general purpose computing systems and dedicated appliances like Oracle's Exadata. In contrast, PureSystems feature an all new integrated system architecture which supports both IBM Power and x86-based servers, associated storage and networking resources, and cross-platform technologies including virtualization. The result is a highly flexible solution that can deliver the simplicity of appliances, the scalability required by business-critical workloads, and the efficiency and agility needed for cloud computing.

What IBM's Flex System Manager provides are levels of control and insight into hardware and software performance that are often missing from cross-platform solutions. In essence, Flex System Manager offers a single, ready to run system that includes all the pieces of the operating infrastructure. Automated, workload-oriented operations (what IBM calls "patterns of expertise" help optimize system efficiency and control, and also makes IT management processes, procedures and support both easier and more consistent.

Real World Examples

How does Flex System Manager work in real world IT situations? Consider two examples: managing virtualization and system resource pools.

- **Virtualization**—The rapid adoption of x86-based virtualization has certainly been the source of happy days for many vendors and businesses but it's sometimes resulted in a new complexity issue—how to cope with the complexities of hypervisor heterogeneity or dealing with multiple, usually mutually exclusive virtualization solutions. IBM is taking a three prong approach to addressing this issue with Flex Systems Manager. First, it offers unified management for its homegrown Power VM virtualization solution, as well as those of VMware, Microsoft and the open source KVM project, including features such as VM lifecycle processes, non-disruptive updates and high availability. IBM's Flex System Manager Advanced solution also offers management of heterogeneous image repositories and virtual appliances across all four platforms. Finally, Flex System Manager provides full insight into and management of Power VM and KVM images.

- **System pool/resource optimization**—Another feature of Flex System Manager Advanced is the ability manage and optimize pools of IBM's PureFlex resources as if they were single systems, with capabilities including dynamic VM and image placement, workload-aware resource management and mobility, and ongoing optimization and rebalancing. These features are particularly valuable in the cloud deployments that IBM's PureFlex and its SmartCloud Entry solutions are designed for, where maximizing system utilization and IT administrator productivity is absolutely critical to ensuring project success.

Final Analysis

At the end of the day, IT complexity is unlikely to disappear unless vendors standardize on a single hardware/software platform, buyers stop looking for deals and technological evolution follows a highly predictable, monocultural path. That is, when lions lay down with lambs, dog and cats make friends and the earth stops spinning on its axis.

Until that day arrives, vendors will pursue and their customers will profit from highly innovative solutions to existing and emerging problems. That describes IBM's Flex System Manager in a nutshell. In essence, the company is leveraging its decades of system hardware and software leadership into a solution—Flex System Manager—designed both to help address considerable current IT management problems and to maximize the value of next generation cloud computing infrastructures.

Are IBM's PureSystems and Flex System Manager for everyone? Not really. Like most of the company's solutions, these offerings are designed for the enterprise customers that provide IBM's bread and butter. But if past successes offer any guidance for the future—and in IT, they usually do—it won't be too long before we see versions of and features from these efforts begin to move down market. Until then, enterprises struggling with the pain of IT complexity and finding a sustainable path to cloud computing would do well to investigate IBM's PureSystems and Flex System Manager.

About Pund-IT, Inc.

Pund-IT emphasizes understanding technology and product evolution and interpreting the effects these changes will have on business customers and the greater IT marketplace. Though Pund-IT provides consulting and other services to technology vendors, the opinions expressed in this commentary are those of the author alone.

Microsoft's Surface Tablet: Redefining or Killing Microsoft

By Rob Enderle, Enderle Group

Microsoft's Xbox and Zune both came with the intent of holding off a major competitive threat. The first threat was from Sony and the second from Apple. Xbox was an effort started under Bill Gates' leadership and Zune was under Steve Ballmer's, so both projects, in a way, showcase the difference in Microsoft under those executives.

Though there are similarities between those products and the new Surface tablets, Microsoft is making a major gamble with Surface. Xbox effectively ensured that Microsoft could never sell an operating system to a game console maker, and Zune killed the company's Plays for Sure licensing business. While the PC market is stronger and more mature, Microsoft's decision to go into PC hardware manufacturing will likely either change OEMs into ODMs or drive them away. That makes Surface critical to the future of both Microsoft and Windows.

Unlike Xbox or Zune, Surface is a better strategic move that could correct long term problems in the PC market in terms of creating solutions. It is also unique to Steve Ballmer's leadership, as it seems doubtful that Bill Gates would ever step so sharply away from the model he initially created.

In the end, we'll have a new Microsoft, but will it be more like Apple was at the end of the most recent decade or as it was in the decade before?

Xbox vs. Zune

Both the Xbox and Zune platforms were led by industry experts in their chosen market; the former was championed by gamers and the latter by folks out of the music industry. However, neither group had great experience with or insight into hardware design, and both products started out butt ugly in their first versions.

But Microsoft's support of the platforms differed sharply; Xbox was given a relatively unconstrained budget, while Zune's budget was cut sharply over time. Both platforms lost their core supporters over the course of their lives and currently Xbox continues as head of a rather unhealthy gaming segment, while Zune has been discontinued.

Xbox succeeded because it was well-funded and staffed initially and, once it reached success, it became relatively hard to kill. Plus, it continued to drive innovative new approaches, like the Kinect human interface. Zune failed because it was massively underfunded from day one and got more so over time, forcing the unit to reduce product configurations and marketing. In fact, Zune likely should have been killed after the first year, because that would have saved Microsoft the additional promotional and product design costs.

After personally coming up with the idea for Zune, Ballmer abandoned the product when it ran into problems. Others inside Microsoft at the time felt the company should have fo-

cused on an iPhone like device, anticipating Apple, rather than an iPod device, because "first to market" success was more assured. Typically, a CEO would then fund to assure a product's success because their own decision was tied to it, but this wasn't the case with Zune, where the product was resource-starved until someone mercifully cut the cord.

Microsoft Surface Tablets

Before this announcement, Microsoft Surface was a product that was unique in the market and made so by a technology called PixelSense, a form of LCD display that can "see" whatever is placed on it—allowing it to capture images and respond more intuitively to touch and gestures.

That first Surface product was basically a table with a display top (initially with cameras and projectors and, eventually, with PixelSense) that was targeted at the hospitality market where it was used for games, presenting menus and to allow folks to settle their bills.

The new Surface tablets' screen resolution currently falls well short of the retinal display that Apple is using on its new Macbooks (and is rumored to be adding to the iPad line), but Apple's products can't do what PixelSense does.

However, getting PixelSense to work commercially on a small format device will be difficult, because the displays currently are being manufactured in low volume, making tablet price points difficult to reach. In addition, the developer ecosystem that surrounds the old Surface table isn't focused on consumers but businesses, making a lot of existing applications useless to much of the audience for the new tablets.

Yet developers were not engaged to fix that problem at Microsoft's most recent developers' conference, suggesting the issue will remain at launch or that the display won't be ready. If that's the case, Microsoft's Surface will just be another set of products that live in small niche markets Apple isn't interested in.

Wrapping Up: The New Microsoft

Now, there are two initial paths for this product to take; one which will likely result in success and the other failure. Both paths come with the increased risk of driving PC OEMs either away from Windows or towards Google:

1. One where Microsoft fails to learn the Xbox/Zune lessons and repeats the Zune failure, crippling the company.

2. The other where they repeat the Xbox success to provide a product that truly rivals the iPad and takes technology and even market leadership from it.

The effort around Surface will change Microsoft, particularly when you consider Azure, into a vertically integrated company that is more similar to Apple than ever. This means that failure will also be more catastrophic, potentially taking out Windows, Office and IE in one shot, putting the firm on a RIM-like path of life support.

In Bill Gates' Microsoft, failure didn't seem to be an option, while in Steve Ballmer's it is too common.. Given the potentially disastrous impact of a Surface failure, this may be Steve Ballmer's final chance to prove he can improve on the company Bill left to his care. Hopefully, he realizes this and will resource the project to a level that will assure success. We'll know before year end.

About the Enderle Group
The Enderle Group (www.enderlegroup.com) provides an unparalleled look underneath breaking technology events to identify the core reasons that buyers and builders of technology should care.

Convergence is REAL. It is NOW.

By Lora Cecere, Supply Chain Insights

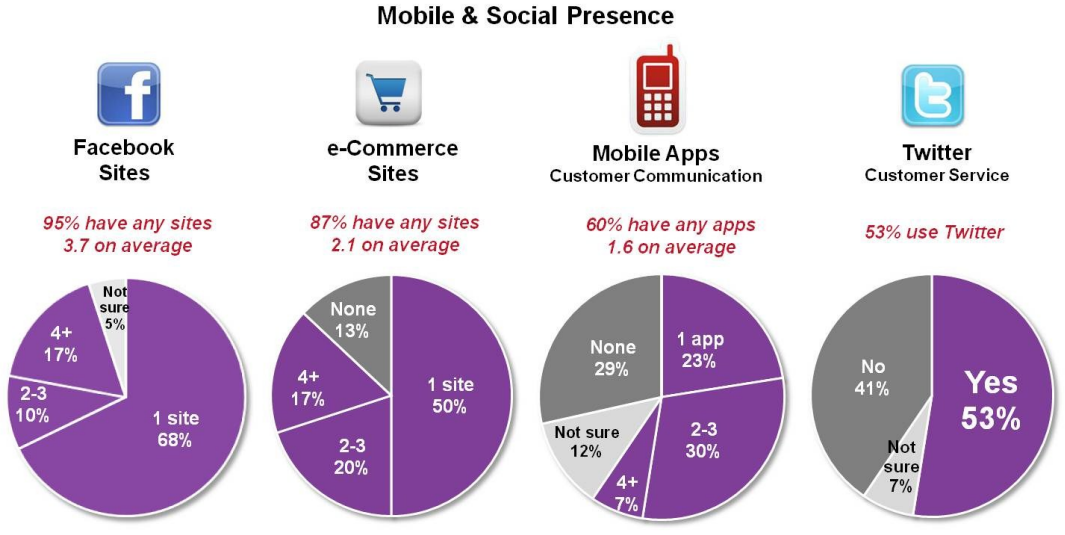
In the last two years, retail growth has shifted to ecommerce pure-play retailers. While ecommerce pure-play retailers have continued to power growth in the post-recession economy, as shown in Table 1, the traditional store formats of mass merchants and specialty retailers have not been so lucky: Revenue per store has flattened, and the consumer is more fickle, expecting more from a cross-channel experience.

TABLE 1: Growth by Industry Retail Sector

	Growth by Retail Sector		
	2000-2004	2005-2009	2010-2012
e-commerce Retailer	15.7%	16.0%	26.6%
Drug Retailer	14.8%	19.7%	9.5%
Grocery Retailer	12.2%	21.5%	19.6%
Mass Merchant	30.6%	9.6%	9.1%
Specialty Retailer	14.7%	12.2%	3.0%

Source: Supply Chain Insights LLC Analysis of Annual Returns

As a result, mass merchants and specialty retailers are turning to mobility and the use of mobile technologies to improve the shopping experience and bolster sagging sales. Mobile strategies offer great opportunities for the extended supply chain, from the shopper through supplier's supplier, but the current focus is on demand generation. It is early with most efforts in 'test mode,' but excitement abounds. Here are some insights on areas explored in our recent research.



Source: Supply Chain Insights LLC – Retail Mobility (May-June 2012)
Base: Retail industry executives (n=40)
Q21. How many mobile applications, if any, does your company currently maintain for communication to customers? Q22. How many Facebook sites, if any, does your company currently have? Q23. How many e-commerce sites, if any, does your company maintain? Q24. Does your company use Twitter for customer service?

Convergence—The focus for retailers from the study is clearly convergence. Mobility is important to retailers, but it not for its own sake. Instead, the focus is convergence of ecom-

merce, mobility and social. Despite the doomsayers against the concepts of social commerce, the study results show that the greatest increase in the intended use of mobile is to fuel efforts in that exact area. When I use the term social commerce, I am not speaking of slapping an ecommerce presence on Facebook (or what some call the "*F-WORD*"). For me, and I hope for my readers, it is much more.

Social commerce describes the use of social technologies to drive commerce through brand engagement and improvement of the path to purchase. Retailers have three Facebook sites on average, two on eCommerce, and 53% now have a strong presence on Twitter for customer service. As a result, their focus on mobile applications and mobility throughout the supply chain is a means to an end of serving customers better and driving brand differentiation.

In the study, the average retail company has 1.6 mobile applications, has been working on a mobile strategy for a little over a year, and notes the biggest challenge is getting the right talent. This is a fundamental shift from two years ago, when the primary focus was mobile for the sake of mobile. Bottom line: we are starting to see the shift from social marketing to social business.

My advice: 35% of retailers have a dedicated team focused on mobility. Use this as an opportunity to be market-driven from the inside-out, not marketing-driven and outside-in.

Fundamental Shift—So, you might be asking why an old supply chain gal like the Shaman is writing about mobility and social in retail. The answer is simple. I believe that the increased use of mobility in consumer interactions will also change the fundamental rhythms and cycles of the supply chain. The pace will change. It will be quicker. We will have new data sources, new forms of demand insights and increased expectations from consumers. We will be forced to redefine old paradigms, and that is the stuff that gets the Shaman's blood going!

I think that this is a new opportunity for ALL parties in the consumer value chain to drive differentiation. I am currently working with several companies that are forging exciting new frontiers on the Digital Path to Purchase (Follow the action at #DP2P on twitter.) Slowly, consumer products and retail leaders are redefining four moments of truth in the shopping experience—the list, the basket, the purchase, and usage—through digital insights. The list is becoming more automated, the basket is becoming the focus for retail/consumer products collaboration, demand shaping is happening in the store with the shopper and social technologies are allowing us to gain new insights about usage.

The shift from near real-time to real-time data is not trivial. Downstream data and demand signal repositories will provide the foundation and, over time, Big Data techniques will eclipse our traditional transactional thinking. The building of outside-in processes will become increasingly important. It is my hope that the supply chain will become less about seller and more about the shopper.

My advice: Take a piece of butcher paper and paste it on the wall. Using the principles of mobile, social and ecommerce convergence, facilitate a cross-functional group of leaders to map what an outside-in process could look like for your company.

Disintermediation—This shift offers new horizons for the consumer value chain. Let me explain. Last week, as I flew back from a client meeting, I placed an order from *Amazon* on my mobile application on an airplane somewhere over Ohio for delivery of pantry items to my apartment in Baltimore. It was one click away. The package was waiting for me when I got home. Whoever thought that we would be ordering flour, sugar and paper towels from Amazon? And that the landed price would be less than *Wal-Mart*?

Amazon wants to own "*the center of the store."* This means retail grocers under attack at a time when they are struggling with store profitability and attempting to squeeze suppliers for every dollar. Year-over-year, consumer products companies have talked about "collaboration with retailers," but the reality is that we have steadily moved costs backwards in the supply chain from the retailer to the supplier to the supplier's supplier. Traditional retailers losing power provides an opportunity to change the equation and shift power to the shopper. This is the time to think about disintermediation. Is Amazon the new Wal-Mart? Does the store become a place for excitement and fresh items? And, as such, is there an opportunity to move traditional trade funds into digital programs to improve shoppers' experience? Is there an opportunity to drive new types of purchase through third-party applications (e.g. like recipe sites for food manufacturers) in social commerce?

I believe that consumer products companies have a new opportunity to move trade funds into digital demand shaping programs with Amazon and change grocery retailing forever. I also believe that Digital Path to Purchase programs are a form of the convergence that will permeate and permanently transform the supply chain.

My advice: As channels change, the supply chains behind them morph. Bricks still matter. Behind every pretty application on a handheld device is a manufacturing plant, a distribution center and a truck. The entire supply chain will all feel this impact.

Let's face it. Why do shoppers need to go to the traditional grocery store to buy staple items when they can order items through a mobile device and have free shipping? Why do shoppers need a piece of paper anymore–or paper coupons–when they can go to a recipe site, plan their meals for the week, pull a digital list and place it on Amazon for delivery? Or, alternatively, cross-shop digitally across retailers and combine mobile offers for the best price?

In summary, I believe the time for convergence is now. Few companies are fully ready for this shift but all should be preparing. Slowly, day-by-day, power is shifting to the shopper. The paradigm of what is a retailer and what is a supplier is changing. New business models and opportunities are opening up, but they will only be captured by those that are truly market driven, not by those that rely on marketing-driven initiatives. The spoils will occur with the market-driven leaders. It will be the companies that start with the customer and

map supply chain practices back to delight,energize and better serve the shopper through digital technologies that will win the day.

About Supply Chain Insights
Supply Chain Insights LLC (SCI) is a research and advisory firm focused on helping supply chain teams improve value-based outcomes via offerings including research-based Advisory Services, a Dedicated Supply Chain Community and Web-based Training.

AMD Woos Developers with Promises of Efficiency

By Roger Kay, Endpoint Technologies

Last week, amid a plethora of competing conferences and events around the country, AMD held its own meeting for developers. Called the AMD Fusion Developers Summit (AFDS, as if we needed another acronym), the conference was the second in this particular series. It was the second because Fusion hasn't existed all that long, the first instance of it, called Brazos, having been shipped only at the beginning of 2011.

For clarity, Fusion is the name that AMD has given to its new semiconductor system architecture. Chips based on this architecture AMD calls Accelerated Processing Units, or APUs, from the old idea that graphics processors are hardware accelerators for rendering visual data. Fusion blends (fuses) traditional x86 computing cores, which compute things serially or one after the other, with graphics processors, which compute them in parallel or all at the same time. Perhaps oversimplified, that explanation should hold for the duration of this article, but if the reader is truly interested in the details, further enlightenment is available here.

The theory behind Fusion, borne out in real-world cases, is that traditional processors (CPUs or Central Processing Units) are good at certain things and graphics processors (GPUs or Graphics Processing Units) are good at others, and that if these two types are harnessed in tandem, they are capable of "balanced" computing, producing better results faster and at lower power. This balanced approach is also called "heterogeneous computing." More on that in a bit.

Fusion is gaining a degree of traction, as AMD was able to draw hundreds, if not thousands, of developers during a week when a lot else was going on. I asked several developers that I ran into at various informal moments how they were getting on with Fusion and whether they were finding it useful. Those I spoke with tended to be in areas like medical imaging and videogame development, which already make plenty of use of graphics processing. They seemed enthusiastic, and I suspect they were a little more so by the end of the conference, as AMD painted a convincing portrait of the benefits of Fusion during the keynote speeches and breakout sessions.

It was interesting to see how AMD related to its partners. At most events of this type, the host tends to keep the vast majority of speaking slots to itself, all the better to bandy about its good works. In contrast, AMD shared many of the keynote slots with partners and gave most of the breakout sessions to a variety of other firms.

One of the better keynotes was given by Amr Awadallah, chief technology officer at Cloudera, who first cut his teeth on Big-Data meaning extraction at Yahoo. He and Jeff Hammerbacher, who was doing the same thing at Facebook, threw their lots in together, becoming early proponents of Hadoop, which everybody likes to say, but almost nobody groks. Like any great professor, Awadallah, with simple language, gave a complete and panoramic explanation of Hadoop that even a baby could understand.

Two announcements made during the conference gave a sense of the direction AMD and its partners intend to go.

One concerned the formation of the Heterogeneous System Architecture (HSA) Foundation, initial founders of which include AMD, ARM Holdings, Imagination Technologies, MediaTek, and Texas Instruments (TI). The foundation's mandate is to standardize hardware specifications for these mixed CPU/GPU platforms and nurture an ecosystem of developers and partners around it.

Of interest here is that AMD — a silicon maker known primarily for creating processors based on the x86 design pioneered by Intel and used in most PCs (even Apple's) — is matching up in this consortium with a crew from what could be argued is the opposing camp.

As high-mobility devices, like smartphones and tablets, continue their rapid rise in prominence and represent an increasing proportion of all Internet access devices, many processor sales are going to ARM licensees these days rather than to Intel and AMD. So, what's AMD doing up on stage with ARM, TI, and MediaTek, the last two being ARM licensees, and, while we're at it, with Imagination, which competes with AMD in graphics?
Some of the answer comes with the second announcement, which trumpeted the fact that AMD is licensing ARM's Cortex-A5 processor design for a security co-processor that will be integrated into future APUs — a sort of trusted chip within a chip.

The rest of it can be inferred from statements that Rory Read, AMD's new CEO, has been making about how AMD has to break out of its perennial role as an also-ran in a race with Intel and pursue products in the interests of its customers alone. If one takes the ideas that heterogeneous computing is primarily about efficiency (read: low power usage), and that ARM, with its legacy in mobile phones, is known for low power usage, then a future that includes AMD parts with actual ARM processor cores running them suddenly seems likely.

When asked directly about this possibility, AMD was a bit coy and continued to insist that x86 is alive, healthy, and slated for a magnificent future, but nonetheless left the door open a crack with respect to the potential that ARM cores could ultimately replace x86 cores in some future products.

Meanwhile, Mark Papermaster, AMD's chief technology officer, opened up a whole horizon of potential products that might make use of heterogeneous computing, including servers (remember the SeaMicro acquisition?), desktops, notebooks, tablets, automotive infotainment systems, game consoles, set-top boxes, smart TVs and, yes, potentially even smartphones.

(Note—this report was originally published by Forbes on June 15, 2012 and can be accessed at: http://blogs.forbes.com/rogerkay)

About Endpoint Technologies
Roger L. Kay is the founder and president of Endpoint Technologies Associates (www.ndpta.com).

SUSE Gets New Life with Attachmate Group

By Laura DiDio, ITIC

The last 14 months have been eventful for SUSE as it began a new chapter in its history. In April, 2011, The Attachmate Group bought Novell (which had purchased SUSE in 2004 for $210 million) and SUSE for $2.2 billion. SUSE now functions as an independent business unit. Its main products are the SUSE Linux Enterprise Server, SUSE Linux Enterprise Desktop and the SUSE Studio development tools. ITIC interviewed Michael Miller, SUSE's vice president of Global Alliances & Marketing, and Kerry Kim, the company's director of Product Marketing. The two executives discussed the initiatives since the Attachmate acquisition and detailed SUSE's current and future products, key alliance partners and business strategies.

ITIC: Describe SUSE's strategic focus and direction in the 14 months since Attachmate purchase?

Michael Miller: Our first job was to reconnect with partners, alliances and customers. We brought a stable continuity of people, engineering, alliance, sales and support and reintroduced ourselves as a SUSE business. I immediately traveled to meet with global alliance partners including, Dell, Fujitsu, HP, IBM, Microsoft and SAP. We got a very positive response; everyone was happy to see the SUSE brand being carried forward. The second thing was determining the focus and our core areas of business. We don't want to be all things to all people. We spent a lot of time figuring out where we could be key and core to our partners and customers. It was an intensive process and very team building.

We came up with three focus areas. They are: Enterprise Linux, Cloud infrastructure and integrated systems. SUSE Linux Enterprise is aimed at addressing the most demanding data and compute-intensive workloads to deliver services in real time for databases, large performance SAP applications and HPC (high performance computing). The second initiative centers on the cloud and cloud infrastructure. SUSE has a significant business with the Amazon public cloud; we've seen a10% increase month-over- month on Amazon. We want to expand that and make sure SUSE is a pivotal player there, and we're ramping very quickly. We're also very excited about the private cloud infrastructure. We see the OpenStack project as the Open Source part of Cloud Infrastructure.

At BrainShare 2011, SUSE said it would join and contribute to the OpenStack Foundation; we're part of the founding and drafting committee. We want to make our private cloud offering the most durable, stable, and easiest to deploy and manage, and the most cost efficient to implement. At the same time, SUSE wants to ensure that there's no vendor lock-in; they can build a stack that's tuned to the business needs. And we want to combine [our offerings] with the SUSE tools which are operating system- and hypervisor-agnostic.

ITIC: You hired back a lot of the original SUSE engineers in Germany

Miller: That's correct. When The Attachmate Group acquired Novell, we carried over the entire German engineering organization led by Ralf Flaxa, who is the vice president. And we've also brought back a lot of former SUSE engineers. The organization totals about 750 people.

ITIC: Describe SUSE's present initiatives

Miller: We're into an interactive engaged phase with our partners and alliances, e.g. SAP HANA appliances which all run on SUSE Linux. It's the fastest growing product SAP has had in the last 15 years, and we've had great success at aligning with customers and alliance partners for Private Cloud. We have customers like BMW that want to develop a cloud offering, and we're launching them with up to 20 customers worldwide over the next six months. Because we're working with partners and have our own services organization, we want to scale globally and in collaboration with OEM hardware partners and major customers. We're also very focused on exceeding the overall Linux industry revenue and booking growth rates in fiscal 2013 and so far we are doing so.

ITIC: Is SUSE targeting any specific vertical market segments?

Miller: Yes, we're particularly focused on automotive, aerospace, defense and retail. Nearly all of the global automakers like BMW, Chrysler, Daimler, Ford, GM, Honda, Hyundai, Renault, Toyota, Volkswagen and others are SUSE customers. And nearly 80 percent of the US Fortune 500 aerospace and defense companies and 70 percent of US Fortune 100 general merchandisers, specialty retailers, and food and drug stores deploy SUSE Linux Enterprise.

ITIC: SUSE Enterprise Linux has consistently performed well in ITIC's Reliability Surveys, what have you done to improve performance and availability?

Kim: As a general philosophy, engineering excellence has been a cultural and core value for us for the past 20 years. We've focused on commercializing Open Source software. We continually fine tune our various engineering processes and automate test processes to insure they are fully integrated. This, in turn, optimizes performance, scalability and reliability. That quality has been part of the fabric of SUSE. On the technical side, we've continued to push the envelope to get those features that would achieve parity and surpass UNIX distributions. With each successive product release, SUSE tries to introduce more robust file systems, tracing, tuning and Operating system level virtualization (akin to Sun/Oracle containers and zones). We also support the latest XEN and KVM releases. And we've introduced commercial support for Linux containers – OS level virtualization; on the file system side, we've introduced commercial support for Butter MS to rollback changes in a scalable file system like ZFS.

And on the tracing side, we've introduced support for LTTNG (Next Gen Linux Tracing Toolkit) to give customers the ability at the kernel level to monitor and see how various threads interact and impact OS performance. Earlier this year we released SUSE Linux Enterprise Server 11 Service Pack 2. That is supported on Dell's latest 12G servers and IBM's System X servers. We are concentrating on a forward looking developing model so we can de-

liver the innovation support for latest hardware and chipsets. We do a lot of integration testing with hardware and software partners so that we can achieve greater reliability.

ITIC: SUSE also gets high marks for robust security. What are you doing there?

Kim: One reason we haven't had as many problems is that rivals get used more – security by obscurity. Traditionally, Linux has been more of a back end, behind-the-datacenter-door operating system. It gets used in specific scenarios, like thin clients, and SUSE benefitted from that. Every OS must be inherently secure, and you have to allow it to be and remain secure when you deploy other products, like firewalls. SUSE has been working actively on both fronts. We've submitted all of our platforms for security Carrier Grade certification for both the government and telecommunications industries. There are a number of tools and packages that are part of the SUSE Linux Enterprise distribution, such as both IPV 4 and the new IPV 6 support.

ITIC: Can you describe SUSE's activities with respect to its key partnership with Microsoft?

Miller: Back in November 2006, Novell and Microsoft signed a wide-ranging partnership and patent cross-licensing agreement to ensure SUSE's continued interoperability with Microsoft Windows. Last July, SUSE and Novell renewed the agreement for four more years to 2016. In addition, in early June, we announced that SUSE Linux Enterprise Server and openSUSE can now be run in Windows Azure Virtual Machines. Additionally, through SUSE Studio, customers can rapidly develop cloud-ready applications and automatically launch them on Windows Azure, virtually eliminating inefficient manual processes. Through the SUSE Cloud Program, SUSE makes it easy for cloud vendors to offer differentiated services that speed customer acquisition.

Many of today's top global cloud providers offer SUSE Linux Enterprise Server to help IT organizations deliver mission-critical IT services efficiently and cost-effectively in cloud environments. In addition to Microsoft, we have a number of cloud providers that have joined the SUSE Cloud Program, including Amazon Web Services, Dell, Fujitsu, IBM, Intel, SHI, SGI, Verizon and Vodacom Business. The Microsoft/SUSE alliance jointly sells SUSE Manager and SUSE Studio as part of our solution portfolio. Our strategy is to support mixed environments in the cloud as well as in the data center. And it's working: to date, Microsoft and SUSE have 800+ joint customers worldwide.

ITIC: Can you detail SUSE's initiatives with other partners?

Miller: SUSE is the number one Linux platform for SAP customers; over 3,500 SAP customers run on SUSE Linux Enterprise, and we provide joint 24x7 technical support leveraging SAP Solution Manager. We're strategic for SAP in the datacenter and in the cloud, supporting SAP HANA / SAP BWA, SAP Business ByDesign and SAP StreamWork Enterprise. With respect to VMware, the vSphere customers are entitled to SUSE Linux Enterprise Server maintenance at no additional cost, and they have an option to purchase technical support direct from VMware. Additionally, VMware is standardized on SUSE Linux Enterprise Server

for all VMware appliances, and the vCenter Appliance based on SUSE Linux Enterprise Server is available now. SUSE and VMware are pursuing joint technical optimizations and go-to-market programs. SUSE also has very strong partnerships with OEM hardware vendors, including Dell, HP and IBM.

ITIC: What can SUSE customers and the industry expect in the 2012 -2013 timeframe?

Miller: We've got a very big push involving cloud infrastructure, and we'll launch the first SUSE CON conference September 18th – 21st in Orlando – focused entirely on Linux technology and customer partners. By delivering SUSE Linux Enterprise Server in the cloud, we're helping customers to increase flexibility and resource utilization, while reducing the management burden and risk. Through our overall vendor alliances, we provide our joint customers with the ability to take advantage of the most certified applications of any Linux vendor and a robust solution, such as SUSE Studio, for developing and deploying mission-critical Linux workloads on a pay-per-use basis to Windows Azure.

One of the main ideas behind the new service is to create a hybrid cloud to enable applications to run across the cloud and servers that customers have more direct access. Earlier this month we announced support for Windows Azure Virtual Machines. This allows customers to move virtual hard disks (VHDs), with the configured systems based on Windows Server or Linux, between the cloud and local servers. So we've made it easy for businesses to extend SUSE Linux Enterprise Server-based applications to Windows Azure using the one-click-deployment capabilities of SUSE Studio. We've also included automatic maintenance capabilities that will keep SUSE Linux Enterprise Server up-to-date on the most current security patches, bug fixes and new features, so customers can get peak performance efficiently and cost- effectively.

Kim: We have additional products that complement the server OS – various tools and frameworks that enable our customers to standardize and simplify deployment, and to manage their Linux infrastructure. We're finding that, in this growing virtual and cloud-based world, these tools are valuable for partners and enterprises. For example, we've allowed Dell to use our SUSE OS platform in their OEM Solutions business. These are products that they build and deliver, but Dell and our customers can leverage our tools, like SUSE Studio, that lets them customize the OS and customize the OS for different form factors, like turnkey physical or virtual solutions. Dell sells integrated hardware and software and they are specifically targeting enterprises in specific verticals like healthcare – for instance GE [General Electric Co.] for ultrasound and MRI systems. Dell is taking their supply chain expertise and marrying it to our products and tools, and you'll see more of that type of innovation.

Through the SUSE Cloud Program, we're making it easy and efficient for cloud vendors to offer differentiated services that speed customer acquisition. Many of today's top global cloud providers offer SUSE Linux Enterprise Server to help IT organizations deliver mission-critical IT services efficiently and cost-effectively in cloud environments. In addition to Mi-

crosoft, cloud providers that have joined the SUSE Cloud Program include 1&1, Amazon Web Services, Dell, Fujitsu, IBM, Intel, SHI, SGI, Tencent, Verizon and Vodacom Business.

By delivering SUSE Linux Enterprise Server in the cloud, SUSE helps companies increase flexibility and resource utilization while reducing risk. Through our alliance with Microsoft, we provide our joint customers with the ability to take advantage of the most certified applications of any Linux vendor and a robust solution, such as SUSE Studio, for developing and deploying mission-critical Linux workloads on a pay-per-use basis to Windows Azure. One of the main ideas behind the new service is to create a hybrid cloud to enable applications to run across the cloud and servers that customers have more direct access to.

About ITIC
Laura DiDio is Principal at ITIC a research and consulting firm based in Boston.