

Weekly Review

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Dell's 2009 Analyst Meeting—Providing Assurance in Uncertain Times

By Charles King, Pund-IT, Inc.

Organizations face a common challenge in crafting messages for specific constituencies. Badly done, such presentations can leave listeners irritated and confused. Performed correctly, according to the understanding and expectations of the audience, they can assume levels of gravity beyond their weight.

We raise these points in the context of the analyst meeting hosted by Dell, Inc. this week in Austin, Texas. Before a sizable crowd consisting largely of financial analysts and major institutional investors, company founder and CEO Michael Dell, CFO and SVP Brian Gladden and senior line of business executives led the audience through presentations delineating Dell's current condition, its view of the marketplace and expectations for the future.

Throughout, the company's messaging keyed on critical points of interest for the finance and investment communities, including:

- Dell's overall financial condition;
- Issues related to its fiscal health;
- Areas of current concern and future opportunity;
- Its competitive position/advantage in key markets; and
- Its prospects for the future.

This required a different approach than what is typically seen at IT industry analyst events, which view vendors and their world through a technically focused lens. In Austin, technologies provided spice and subtext reflecting or illuminating a more critical concern: how Dell is faring during what most people consider the most significant economic downturn in a generation, and one whose eventual length and depth remain essentially unknown.

Leading the company through such thorny challenges is not likely what Michael Dell had in mind when he returned in early 2007. At that time, many thought Dell's resumption of CEO duties would likely be a short term and largely ceremonial exercise. Then again, a bit over two years ago, most people thought the real estate meltdown would only ripple a few vastly overpriced markets, that powerful banks and insurance companies were bastions of stability and "hedge funds" probably had something to do with the purchase of new shrubs and gardening tools.

So how has Dell done in shepherding his namesake company through an increasingly wolfish landscape? Pretty darned well, all in all. Thanks to a rigorously disciplined approach to capital spending, Dell Computer not only emerged profitable but has managed to gain modest share in some critical markets and preserve a substantial war chest to fund innovative organic (in-house) and inorganic (through acquisition) growth. This has required some difficult choices, including painful layoffs and the closure of long-standing Dell factories and facilities but appears to have served the company, its customers and shareholders very well.

However, unlike some competitors Dell has not simply "cut its way to profitability." Instead, the company recognized early on the fundamental shifting ground beneath the IT industry.

These changes included the continuing uptake of x86-based virtualization solutions from VMware, Citrix, Microsoft and other vendors, the rapid ascendancy of mobile computing devices, including smart phones and netbooks and emerging technologies supporting cloud computing and Web 2.0 services that represent next-generation IT markets. In many cases, these new opportunities mirrored or complemented many of Dell's traditional strengths and the company and moved quickly to preserve and gain market advantage.

This is not to say that Dell will not encounter further challenges. In fact, company executives focused on specific issues of concern, including tightening margins and rising component prices, and (like other IT vendors) Dell also faces continuing economic uncertainty in markets of every sort and size. There are new technologies that could reduce or remove the ice jam on IT purchases, such as Intel's Xeon 5500 (Nehalem) processors and Microsoft's upcoming Windows 7 OS launch. Overall, Dell is well-positioned to gain advantage from these developments and to effectively contend with broader problems facing the IT industry.

To its credit, Dell is heightening its focus on customers' critical business and technological needs, essentially helping them make the right and avoid the wrong decisions. In addition, situations that are problematic for one vendor can create opportunities for others. Along with organically developing well-regarded new consumer and business products (Dell's design team has won more awards in the past 12 months than in the previous 24 years combined), the company has the financial wherewithal to continue pursuing profitable acquisitions like its 2008 purchase of EqualLogic and building innovative relationships such as its partnership with EMC.

In all, while Dell is and will continue to be a technology vendor focused on maximizing the power and value of industry-standard x86 components, it is also proactively addressing the challenges dynamically shifting the IT and economic landscapes. That should place the company and its shareholders in good stead to survive and even thrive amidst virtually inevitable market challenges and uncertainties. But just as importantly, a more adroit Dell will also benefit the company's expanding customer base and its growing community of partners, both today and in the future.

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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.

EMC's Ionix – Rethinking and Rebranding IT Management

By David Hill Mesabi Group and Charles King, Pund-It, Inc.

Last week, EMC announced the rebranding of its IT management products (including its Smarts, nLayers, Voyence, Infra, ControlCenter and Configuresoft solutions) under the “Ionix” product family umbrella. Additionally, the company rebranded its Resource Management Software Group (RMSG) as EMC Ionix. In doing so, the company continues to focus its tactical and strategic efforts on what it considers a key information infrastructure challenge — IT management.

While it is not true that today's IT management “emperor” has no clothes, his wardrobe has surely been in the need of a major makeover and better coordination. For one thing, most IT management products and product families were traditionally developed to support vendors' homogeneous, proprietary IT infrastructure technologies, then extended outward to embrace other platforms. More recently, IT management has to learn how to cope not only with physical server and storage assets but with the evolving world of virtualized IT. That evolution, in turn, is driving much of the emerging world of cloud computing.

A Unified Software Portfolio

The culmination of EMC's efforts, Ionix qualifies as a rich fabric of individual yet integrated products that serve as the basis of the “emperor's” new wardrobe. Even though a customer can still select specific products to meet particular requirements, Ionix is a unified software portfolio whose individual solutions can be leveraged synergistically. Given that each product originated with its own software code base, how can that be true?

Well, first of all a Configuration Management Database (CDB) provides a point of integration in which different products can share data among one another whenever and wherever necessary. That takes care of the data side of the house. On the process side, workflow automation offers a second means of integration, including a common user interface (UI), designed to ease and simplify customers' learning processes. Bottom line: although functionalities are obviously different for different products, the look and feel of EMC Ionix management processes is the same.

The Ionix Solution Family

EMC has divided the Ionix family into four distinct IT management solutions:

- ***Ionix for Service Discovery & Mapping (formerly nLayers)*** — Designed to help IT organizations dynamically understand the relationships and dependencies among the key components of the information infrastructure — application, server, network, and storage assets. Since IT can't effectively manage what it does not know exists, this visibility is critical.
- ***Ionix for IT Operations Intelligence (formerly Smarts)*** — Enables the ability to restore impacted services and business processes through the use of automating service and infrastructure monitoring, analysis, and reporting. That includes automating root-cause analysis and business impact assessment and offering a single console that provides a one-window-to-the-world approach for monitoring and management. These Ionix capabilities have now been extended to VMware environments.
- ***Ionix for Data Center Automation & Compliance (formerly ControlCenter)*** — Delivers automated (rather than error-prone manual) configuration and change processes across all the three basic hardware components of an IT information infrastructure —

servers, networks, and storage components. Also helps predict how proposed configuration changes would impact other systems and applications, including how they would affect service levels. Can be used to apply policies that continuously and automatically check to make certain that applications and servers are optimally configured for virtual environments.

- ***Ionix for Service Management (formerly Infra)*** — Supports the service-oriented approaches and service automation needed to enable IT to automate service management in accordance with process frameworks and best practices (such as ITIL). Along with providing good services to customers, this solution addresses incident, problem, change, release, and service-level management levels. Via a service desk capability, it provides a fully integrated service catalog, a knowledge base, a workflow engine and a purpose-driven CMDB.

IT Management “X-Factors”

As another way of looking at IT management, EMC has defined what it calls next generation IT management “X-Factors” which highlight what individual Ionix solutions are designed to achieve. The three X-factors are:

1. ***Dynamic Insight*** — Helps businesses move beyond a traditional, yet shortsighted device-driven focus to broader service-driven strategies. Practically this is achieved through the dynamic mapping of relationships and dependencies automatically into the Ionix Service Manager CMDB in order to provide improved configuration change management and impact analysis.
2. ***Collaborative IT*** — Changes all too common information silos, which have inefficient flows of information, to information sharing environments where all teams have a common view of critical business data. Companies can achieve this by using Web 2.0 and user community concepts, federated CMDB and workflow integration along with an integrated service portal.
3. ***Model-based Control*** — Enables organizations to move from fragile and error-prone manual processes to robust, repeatable, automated IT management. Model-based control is enabled by a common tool set, as well as consistent configuration and change processes that ensure compliance with the best practices and policies, such as ITIL.

Summary Analysis

Rebranding and “X-Factors” aside, is EMC really doing anything new and different with Ionix? In a word, yes. However, EMC Ionix should not be regarded as a standalone effort but as the most recent step in the company’s journey toward uniting, integrating and managing IT infrastructure assets. That journey began with the 2003 purchase of VMware, when it became obvious that the company was not content to rest on its traditional storage vendor laurels. Recent developments, including Cisco’s Unified Computing System (UCS) announcement in March and VMware’s vSphere announcement in April envision a radically different future for individual enterprise datacenters and the IT industry as a whole.

Whatever comes to pass, IT management is and will remain a critical, difficult issue. EMC appears to be positioned ideally to address these challenges and their related opportunities with Ionix, which leverages the company’s own deep IT management solution expertise (i.e. ControlCenter) along with numerous innovative acquisitions, including Smarts, nLayers, Voyence, Infra, and Configuresoft. The result? EMC Ionix qualifies as an integrated, next generation approach which thoroughly enhances down-to-earth physical IT

management, understands and makes more effective the virtual world, and is well-positioned to play in the clouds.

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About the Mesabi Group

The Mesabi Group (www.mesabigroup.com) helps organizations make their complex storage, storage management, and interrelated IT infrastructure decisions easier by making the choices simpler and clearer to understand.

EMC Gets Data Domain: Why Experience is Important

By Rob Enderle, Enderle Group

By my count, EMC completed over 40 acquisitions since 1993 with over half of them in the last 4 years. In contrast, NetApp, the company they were competing with for Data Domain, has done five since 1997. Acquisitions are difficult and require a unique skill set to succeed. The only way I know of to gain that skill set is either hire a working team of people who have done a lot of recent acquisitions or jump in and become an expert. EMC is currently one of, if not the, leading experts in IT company acquisitions. NetApp is not.

This gave EMC a substantial advantage in the fight over Data Domain, but it also gives them a substantial advantage in what comes next in terms of integrating the firm and its technologies into the EMC family.

Why Inexperience Hurts

What generally happens when an inexperienced company pursues a merger or acquisition is they hire a consulting firm to help build a plan to execute against. The consulting firm generally knows little about either company, even though they do know about the mechanics of mergers. This is like bringing in a General Practitioner Doctor to work on surgically combining parts from two patients they have never met.

Then the acquiring company moves into rapid execution mode. This generally consists of executives on both sides trying to protect and build empires with little regard for customers, revenue and an excessive focus on reducing costs, particularly if they are costs that come from a group that isn't in the decision loop (like the acquired company).

During this process, key employees often get disenfranchised and leave or act out, competitors treat the acquired company's customer base like a money buffet, and the value of the acquisition at the end of the process can drop to less than half what it was at the beginning.

In short, an inexperienced company tends to focus on the wrong things: personal power, costs exclusive of revenues, and blame avoidance.

Why Experience Counts

By contrast, what generally happens when an experienced company pursues an acquisition? First, they create a comprehensive list of assets they have acquired and then build a plan designed to protect them. This plan will go through phases, beginning with rough drafts based on past similar acquisitions. They will also pull from a knowledge base, in many cases both human and digital, that aggregates best practices (things that have worked) from prior mergers, as well as practices to avoid. They, too, often use consultants but only to refine the plan not build it.

Unlike inexperienced companies, they will know which consultants are competent and which are not based on prior experience and references.

Rather than the execution of the merger being the primary focus, experienced companies understand the critical nature of planning. This will allow them to actually execute more quickly than the inexperienced company because they will encounter fewer setbacks during

the process even though they will likely start formally bringing the companies together much later because of the longer planning cycle.

Other differences: There will be a huge initial focus to protect the key company assets, including customers, partners, top performing employees and working business structures. If any appear to be at risk, they are far more likely to respond quickly and proactively because of their focus on preserving valuable assets rather than simply getting the merger done.

As a result, experienced companies should experience little customer erosion, and the employees they lose will largely be underperformers that prefer safe havens with competitors to integrating with top performers. Turf decisions and compromises will be largely made by those that aren't directly involved so that the focus is on maintaining the business value rather than the protection of any one executive's empire. Early changes will like focus on benefits to the larger entity, like volume purchasing, multi-national partner relationship and attaining more direct access to existing accounts.

One major issue that is virtually inevitable is sales force consolidation, which, even with experienced companies, can be difficult. Still, the experienced firm knows this and will be monitoring customer satisfaction closely to minimize potential damage.

In short, an experienced company focuses on customers, revenue, the identification and retention of key human and corporate assets and assuring the value of the acquisition is not only retained but enhanced.

Wrapping Up

From winning the Data Domain bid to the actual execution of the merger, EMC did and should perform flawlessly. In part, this is because of their impressively vast experience, but it also reflects the company's historic focus on customer satisfaction, showcasing a textbook acquisition process. Job loss should be minimized, customers well cared for and competitive migrations minimized. This is the advantage of experience and why it pays substantial dividends.

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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.

Virtualization and the Candy Store Effect

By Charles Brett, C3B Consulting

Server virtualization is fashionable and popular—for good reason. Delivered well, it produces big paybacks, fast, for organizations that adopt it. That said, all is not sweetness and light. There is a darker side, which is pernicious. IT, once it possesses virtualization, starts to behave like a kid with an unending supply of sweets (what C3B Consulting refers to as Virtualization's Candy Store Effect).

If you want to find out if your organization 'suffers' from this malady, C3B Consulting can suggest an 'acid test.' Using some form of automated discovery (ADAD—see Pund-IT, April 22, 2009 or www.c3bconsulting.eu/page_1245237261117.html) or other relevant tools to find out how many virtual machines (VMs) are in use in your organization. Does this match the number expected or is it far greater?

If the number of VMs is as expected, this is a broad indicator that good practices are in place. If the number is significantly higher (or lower), there is cause for immediate investigation.

In one IT professional services company—which really should have known better—there were almost as many VMs as there were employees. This was not because all PCs had been virtualized (employees had their own unique physically configured laptops and desktops); they were simply more lax procedures and (in some measure) delighted about being able to offer flexibility on demand.

Why should this matter? The answer is simple: To install a new physical server (say) requires the discipline of officially approved company resources – CapExes, expenditure, physical locations, plus all the effort associated with the purchase/installation of the hardware and software.

That is not true once virtualization has been deployed. C3B Consulting has watched organizations 'bring up' and tear down' VMs at will. "You want a new VM? What size and with what resources? Hang on a moment. There it is done for you." The sheer ease with which this is enabled by virtualization (i.e. the Candy Store Effect) is the root cause of the problem.

While the ease of commissioning a VM 'on demand' is one aspect of the challenge, the more worrying (to management) should be the subsequent operation and inevitable tearing down of VMs. What happens to data, or even processes, in a VM that is torn down? Were any backup or archival schemas created? Can recovery take place? Are compliance implications involved? Could a VM actively be used to dissimulate or worse? Might a renegade employee be running a "virtual" porn (or worse) site in 'plain view'? What do you do if the virtualization specialist falls under the proverbial bus and his or her skills are no longer available?

The big positives about virtualization remain its ease of use and flexibility. But those very same virtues can also pose potential threats—unless positive, managed actions are in place.

Analysis

It is not enough for organizations to introduce virtualization and then hope that all will, therefore, be well. Management must be proactive and implement both processes, as well as checks on those processes if an organization is to minimize or avoid exposure.

The good news is that establishing such controls need not be difficult. The better news is that dedicated tools exist to automate delivery of good practices.

Take one example, VMware's Lifecycle Manager (there are similar products from IBM and from Microsoft/partners). VMware's Lifecycle Manager can track (via a Web-based interface) who owns which virtual machines in the virtualized environment. It maintains a formal record of when and how VMs are requested (with necessary justifications), authorized, created, deployed and operated, along with the backup requirements and the decommissioning schedule. It even lists denials (of a VM).

In effect, each request for a new VM is routed for formal approval within the organization. Once approved, the Life Cycle Manager deploys each VM because it possesses (by this time) all the required information about the virtualized resources needed. Lifecycle Manager can even automate the archiving of VM machine images prior to decommissioning; thereby, establishing the record in case this is needed for compliance or other purposes.

It would be comforting to think that most organizations that have virtualized systems observe the disciplines encompassed above. Based on what it has seen, C3B Consulting is not convinced and fears that even though tools (like Lifecycle Manager) are purchased, they are (at best) 'underused.'

As described above, the quickest way to find out if there might be a problem is simply to discover how many VMs exist. If the number is not what is expected: INVESTIGATE. Furthermore, the 'Cloud community' should also take notice. These very same possible weaknesses are all too easy to repeat in cloud computing, whether in-house (private clouds), external (public clouds) or hybrids of the two. Just because a Cloud sounds good, it still rests on virtualization—and possesses all the associated Candy Store effects and implications. .

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About C3B Consulting

Founded in 1988, C3B Consulting (www.c3bconsulting.eu) provides common sense guidance about technology to enterprises and IT vendors across global environments. It is affiliated with Valley View Ventures.

Fusion-io Makes SSDs More Affordable

By David Hill Mesabi Group and Jim Handy, Objective Analysis

Solid state drive (SSD) technology is generally expected to grow in importance in enterprise-class storage as the performance tier of choice. In fact, over time, while tier 1 Fibre-Channel (FC) and serial-attached SCSI (SAS) drives will not be entirely displaced, tier 0 SSD storage will be used for applications where performance is a paramount objective and tier 2 SATA drives will be used increasingly for applications where price—not performance—is the primary consideration. That means that the SSD market will bifurcate into a performance tier and a capacity tier that will coordinate with each other.

There is still some question over when this will take place. Would-be users are still trying to figure out how to efficiently optimize SSD. Many others are trying to understand when it makes sense to adopt this new technology. However, the biggest inhibitor to the adoption of SSDs remains cost. On a per byte basis SSDs are much more expensive (about 20X) than hard disk drives (HDDs).

That does not mean that an economic case cannot be put together for SSDs. For example, to achieve similar performance in an HDD-based system, data has to be spread over many spindles resulting in a lot of unused capacity. SSDs are inherently much faster than HDDs, so a single unit with less total capacity can effectively replace numerous lightly utilized drives. This is especially true when “short stroking” is applied reducing usable capacity to less than 20% of a HDD for a relatively small gain. Although flash memory SSD prices recently fell faster than HDD prices, such falls are not sustainable. Over the long run SSD gigabyte prices compared to HDD will remain at about 20X, so the economic case will continue to pose a challenge. From this perspective price vs. performance will always be an issue.

SSD vendor Fusion-io believes it has found a way to dramatically improve the economics of enterprise-class flash memory devices without increasing cost or compromising reliability by using what it calls Single-mode Multi-Level Cell (SMMLC) technology, which uses multi-level cell (MLC) flash memory technology at the chip level. This compares with standard enterprise-class flash memory, which uses single-level cell (SLC). Raw MLC technology is consumer-grade flash memory (which is what you find in removable USB drives), which trades off a much lower cost structure for higher capacity, with as much as 10 times lower endurance than SLC technology.

An MLC chip of a certain capacity can be made on a die half as large as a SLC counterpart of similar capacity, so MLC has a significant price advantage. But recently, the ratio of SLC prices to MLC prices has widened past the natural 2:1 ratio one would expect. This is because the volume for MLC has been much larger than for SLC, shrinking the number of SLC suppliers. As a result, the market for SLC has become less competitive and prices have increased to levels as high as six times the prices of their MLC counterparts.

This is a problem for most enterprise SSD makers who contend that only SLC can be used in enterprise SSD applications. When SLC flash prices spike, their SSD prices must keep up. Fusion-io has been marching to the beat of a different drummer for the past year now, providing a line of MLC-based drives with specifications that are satisfactory for use in enterprise applications, in addition to their standard line of SLC-based products.

Fusion-io is now tapping into their MLC expertise to go one step further. SMLC is the company's way of managing MLC chips to provide a drive that matches the endurance and write speed of their SLC offering but has a slower read speed that matches the performance of their MLC drive. Since most SSDs provide more read speed than their host systems can accommodate but are significantly slower when it comes to writes, this trade-off should be very welcome by prospective SSD users.

Fusion-io will begin shipping SMLC versions of its ioDrive this quarter. With SMLC the company is able to create an essentially new "class" of SSD storage. As in all of its other devices, Fusion-io applies a proprietary blend of techniques in its SMLC ioDrives, such as bad block mapping, Fusion-io's Flashback redundancy, self healing and error correction coding to give enterprise-class endurance and reliability, as well.

Fusion-io's approach not only presents a challenge to its competitors, but it also increases the potential market through the basic economics of price elasticity. But can this work? History gives two illustrations of how a similar approach succeeded. In the early 1990s, EMC became preeminent in the mainframe disk storage market using SCSI technology with mirroring. Mirroring doubles the price of storage, but still EMC was able to make a compelling economic case and became the leading supplier of mainframe storage in an era when "no one ever got fired for buying IBM."

The second case is more recent—the rapid adoption of SATA technology in enterprise storage solutions. SATA drives are not as reliable as FC or SAS drives, but they have proven to be "good enough" for many applications. The ability to use RAID 6 so that two disk failures do not cause a problem if a rebuild occurs before a third disk fails makes the reliability question moot.

Conclusions

Fusion-io has gone against conventional wisdom by introducing an enterprise-class storage device based on less expensive MLC technology, and now with SMLC, is producing a higher-endurance drive with equal reliability performance at a price point between that of their SLC and MLC-based drives. In doing so, the company hopes to replicate the success of the two earlier examples we cited: mirroring and SATA. If Fusion-io's SMLC offerings are successful, the company should be able to accelerate the adoption rate of SSD technology. While competitors are likely to eventually catch up, eroding Fusion-io's competitive advantage, the resultant SSD price war can only be to the benefit of enterprise customers.

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About Objective Analysis

Objective Analysis (www.Objective-Analysis.com) offers third-party independent market research and data for the semiconductor industry and investors in the semiconductor industry.